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Cooking by Gas at the Langham Hotel, London.

The *Journal of Gas Lighting* thus describes new structural features in the large, externally heated gas ovens, with grills and hot closet recently installed in the Langham Hotel:

The culinary department of a large hotel could be said to be at the very base of its reputation and success. The Langham Hotel, Portland Place, W., can lay claim to being second to none in London in ministering to the pleasures of the table. In the spring of this year. the demands on the kitchen of the hotel necessitated a considerable extension of the cooking arrangements; and selection had to be made from coal, gas and electricity apparatus. There was at first a leaning towards electricity. It was in the mind of the hotel's accomplished chef (M. Fetu) that what he more specially required could not be done by gas; but he was open to conviction. And the Gas Light and Coke Company convinced him and the hotel management that the special requirements could be met, by their particular commodity, better, cheaper, and with greater reliability than by electricity. In an hotel, time, reliability and prompt changes of temperature are important factors both in the kitchen and in the maintenance of the table reputation of the place, and absolute economy, important though it be, has, under the circumstances, to come after. For electricity to have attempted to meet the cooking requirements of such a place as the Langham Hotel could only have ended in failure.

The satisfaction that, before obtaining the contract, the Gas Light and Coke Company gave M. Fetu, that they could carry out his requirements to the letter, has been more than fulfilled in the performance; and now for upwards of 3 months, the gas equipment, with its novel features, has been in use, and has given unbounded gratification to the chef and his staff, who find that in every part it responds to their wishes with perfect freedom. Nothing more, nor anything better, could any chef require.

There were four main features in this cooking installation that were required by M. Fetu:

(1) That the top of the range should be perfectly flat, so that the utensils—for boiling, stewing, simmering, and so forth—could (without lifting) be pushed along to meet high or low temperature according to requirement.

(2) That the ovens should be externally heated.

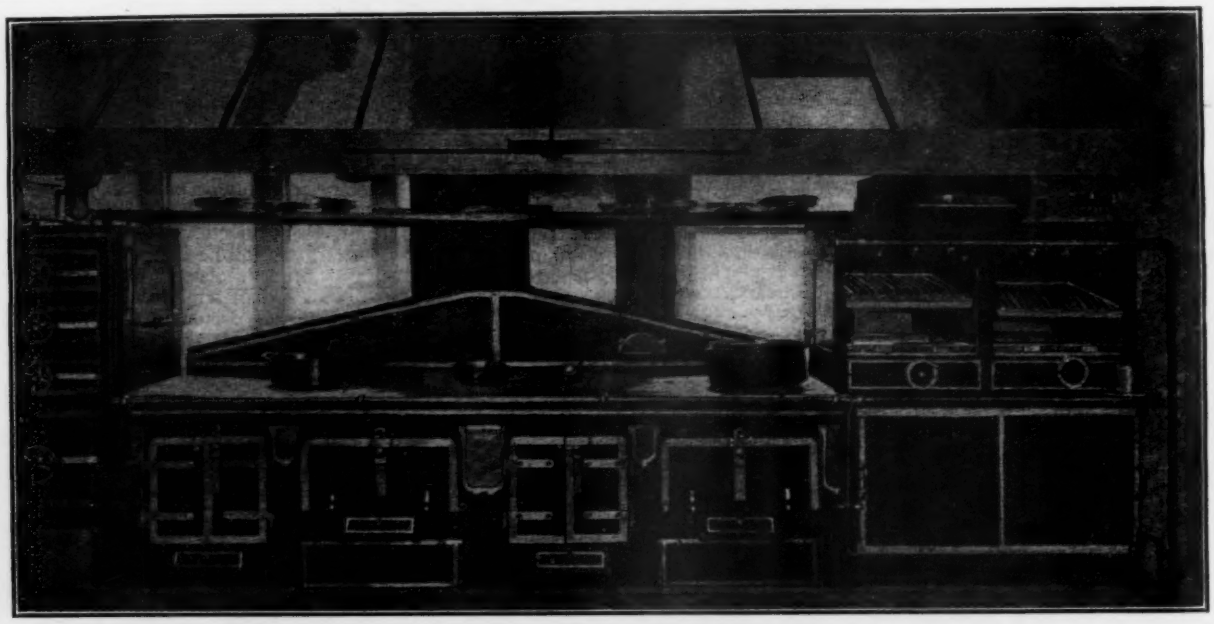
(3) That the whole equipment should be well ventilated.

(4) That the grilling arrangement should be such that the grills could be raised and lowered without withdrawal, and to any degree desired.

In collaboration with Messrs. Fletcher, Russell & Co. (who undertook the work of construction), the Gas Light and Coke Company met these conditions successfully in every respect.

The complete installation has an over-all front length of 17 feet 2 inches, of which length the externally heated gas ovens and range claim 10 feet 8 inches, the hot closet 4 feet 6 inches, and the vegetable steamer (heated by live steam) 2 feet. The range is 2 feet 10 inches high and 3 feet deep. The four-compartment vegetable steamer is seen on the left-hand side of the illustration; and it need not claim further attention—the principal interest being found in the range and grill.

Taking the range first, the top of this is flat and entirely closed; this being preferred to the open top by chefs who have to deal with cooking utensils which are heavy with their contents. In the rapidity with which work has to be done in such places as hotels, it is easier to slide these utensils about than to have to exercise great care in lifting and transporting them by hand from place to place, according to the temperature required. The top of the range is constructed of 7 thick and weighty steel plates. Strength and substance were required to withstand the strain of the temperatures to which the plates are exposed, and the weight of the utensils they have to carry. The main part of the plate is of ½-inch thick steel; with an under rim which makes the plate on its outer edge about ¾-inch thick. Now we cannot imagine the heating of these plates to the varied temperatures required—with the loss by radiation and conduction that must go on under such conditions—being economically accomplished by electric energy; and thinner plates would certainly not stand the strain of the work, nor afford a sufficient storage of heat. The reasons that the tops were made of 7 plates were in order that a small, but sufficient allowance could be made for meeting expansion and contraction, and that there should be easy manipulation of parts when



The New Externally Heated Gas Ovens and Hot Closet with the Grills, and Other Cooking Equipment at the Langham Hotel.

cleaning. Should one plate crack, too, replacement is an easier matter than dealing with the whole top of such a range.

Under each of three of the plates, there is a large gas ring and two long, straight burners. Over the gas ring, a circular opening is provided, which by the aid of two circular rings and a centre piece can be made of three diameters, or be completely closed-in—the opening allowed being according to the size of the vessel to be heated, so that there shall be no escape of heat and no naked flame. The gas burners are removable for cleaning. The intermediate top plates have under them 3 long, straight burners; and as each burner has its own tap fixed along the front of the range just below the guard rail, it will be seen what a tremendous range of temperature has been provided for on this top plate, without any complication, and with a simplicity, reliability and durability that defy competition. Any temperature that is wanted can be obtained; and the utensils can be shifted about to varying temperatures just as the chef requires. The hot-plate is a distinct part of the range, and is unconnected with the ovens.

Turning to the ovens, there are two for roasting and two for baking—those for roasting having double, middle opening doors, and those for baking drop doors, with rest projections, so that, as they are lowered, each forms a shelf for facilitating the withdrawal of the food. The latches of the doors are interesting. They are vertical slide bolts, with double grooved catches at the top, so that the doors can be fastened quite tight or slightly open for the emission of steam. The ovens for roasting are 20 inches wide, by 18 inches high by 28 inches deep, internal measurement, and those with drop doors are 27 inches wide by 12 inches high, by 28 inches deep. The burners are situated beneath the ovens; each oven having its own lighting door and burners, so that the temperatures are perfectly controllable. The heat passes externally up the sides of the ovens to the back; and the products of combustion travel to a shallow collecting flue at the back of the top plate, to be presently referred to. The ovens have fire-brick bottoms. The taps for the oven burners have a recess provided for them at the top right hand side of each door; and the sunk plates are removable for giving attention to the taps. It will be seen from this that every detail has had consideration, in this range of several novel points.

It was stipulated that the whole of the range and top plate should be ventilated from end to end. There were structural difficulties in the kitchen; but they were successfully negotiated. A sloping glazed canopy covers in the whole equipment; and from the canopy a flue leads to an existing permanent shaft. The products of combustion from the externally heated ovens and from the inclosed hot-plate are collected in shallow flues at the back, which deliver into the flue from the glazed canopy. The canopy also collects the fumes arising from the cooking; and these also find exit by the flue. A plate-rack extends from the vegetable-steamer to the hot-closet and grills, in connection with which is found further interest. This hot-closet is 4 feet 6 inches wide by 2 feet deep; and it is also externally heated. The two large grills above the hot closet have their special interest. The heat is derived for each grill from three long burners, each with a double row of jets, impinging on to fire-brick above. The grills are fluted (with a gravy trough suspended in front); and they slightly slope from back to front. But M. Fetu wanted to escape from the form of grill that demanded pulling out and pushing in when the subjects of his art were being cooked by this mode; and he wanted, to dispense with the fixed ledges at the sides, which do not allow the precision of adjustment that grilling demands. His wishes have been accomplished by winding gear; and by the mere turning of a handle in front, he can raise and lower the grills for the inspection of the cooking food, or raise and lower them by several or less inches or the fraction of an inch just as he desires.

Something as to Lead Wool.

[Communicated by "H. B. C."]

A prominent engineer, connected with one of the largest gas companies in the United States was recently asked "Why do you favor lead wool as a calking material?" His reply, prompt and positive, was: "I use lead wool because it is the only material I have ever found which gives me bottle-tight mains, and upon which I can absolutely depend under every condition of service. In fact, I often wonder how gas companies get along that do not use lead wool." This sweeping statement, based upon an experience of more than 5 years in the exclusive use of lead wool, makes all the arguments against its use seem very weak.

Practically every gas engineer has had some experience with lead wool, and all admit that the joint is perfect; but some are inclined to feel that the first cost is high. At the first trials this argument appears to have some weight, but careful observation in the matter of making joints with cement, cast lead, or other materials, shows that the difference in first cost is never more than 20 per cent., and that this percentage is rapidly decreased when lead wool is used in an efficient manner.

The pneumatic hammer, now coming into almost universal use for caulking purposes, is reducing the cost of making joints to a minimum. Not only is the cost of caulking reduced, but the reliability of the joint is increased immensely, as the personal equation is entirely removed. A foreman with a certain number of joints to caulk will give to each caulker the exact amount of lead and yarn to use on each joint, so that uniform joints are assured. The saving in lead in using lead wool as against molten lead, amounts to 50 per cent., and, when the time lost in handling the melting pot is figured, lead wool is seen to be the best material to use, even from the standpoint of first cost.

The reliability of a lead wool joint is traceable to the fact that, no matter how much the pipe shifts from its original position, the lead wool never works out or leaks. This is due to the texture of the wool which, being composed of so many thousands of strands compresses with the joint, assuming automatically the shape of the pipe, so that all the interstices are constantly filled with lead.

The big advances which are constantly being made in pavings, both

in respect to cost and durability, are also important points to be considered when laying gas and water mains. The cost to a gas or water company for tearing up and relaying pavements is tremendous, so that anything which reduces the chance of leaks and breaks becomes of the utmost importance.

When a main is being laid every joint should be carefully tested with an air pressure of not less than 15 pounds; where it is practical, this pressure should be left on for hours, and the loss at the gauge is carefully noted. If a joint calked with lead wool will hold a pressure of 25 pounds for several hours, it is safe to say that the joint will remain tight and not be affected by changes in temperature, increased pressure or vibration.

The manufacturers of lead wool have made great progress in their methods of producing this material. It is now sold in continuous strands, making it as easy to handle as ordinary jute yarn. This method of putting-up does away with loss in handling the lead wool, which saving amounts to at least 2 per cent. in lead and 3 per cent. in labor formerly required to strand the lead.

As a summary of what has been said, the manufacturers of lead wool claim that its first cost in calking is not excessive under any conditions; but that when the calking is done with pneumatic hammers the cost is not as great as that of other materials. Further, that joints made with lead wool are bottle-tight and remain so; that the pipes have better conductivity, thereby decreasing electrolysis; that lead wool can be used where other materials are impracticable, such as is in wet trenches and under water; finally that the recent improvements in manufacturing methods have brought about a saving of 5 per cent. in the handling of lead wool.

The claims made by the manufacturers are evidently borne out by companies that have used and are using large quantities of this material; and the further fact that our large public utilities companies, one after another, are adopting lead wool to the exclusion of other calking materials, makes this a matter of importance to all interested in pipe laying operations.

[Continued from page 156.]

PROCEEDINGS, ELEVENTH ANNUAL CONVENTION, WISCONSIN GAS ASSOCIATION.

Held in the Hotel Pfister, Milwaukee, Wis., May 15th and 16th, 1912.

First Day—Afternoon Session.

Discussions on the Crownhart Address.

Mr. Lathrop—Is a man able to recover if the accident is due to wilful misconduct on the part of a fellow servant? Suppose it is a spectator?

Mr. Crownhart—The law says that when the accident comes about by wilful misconduct, if an employee is hurt by the wilful misconduct of another employee or a third person, he cannot recover. Suppose, for the sake of illustration, you had a strike at your plant, and some other employee out on strike, or one who has been an employee, throws a stone through the window and hurts a man. That is wilful misconduct on the part of this outside party, for which you are not liable.

Mr. Luebkeman—Suppose a man is killed by lightning while in the employment of the company; is the company liable?

Mr. Crownhart—Such a case has not arisen with us; but your question is entirely pertinent, because that question has come up in England where they have a compensation law, and our law was based on the English law.

Mr. McCorkindale—As to the question about being injured by the wilful misconduct of another, in that case would he not have his cause of action against the man who hurt him?

Mr. Crownhart—Yes. Getting back to the lightning case. A workman in England, who was sent up a high tower to work, was struck by lightning. The court here held that that was an accident, because it was one of those things that grew out of this particular industry in which he was. He went where lightning was liable to hit him, you see. What our Commission and the court would hold on that point I am not prepared to say; but it must be an accident.

Mr. McCorkindale—Supposing in running an electric light plant an outsider put his hand on a wire which became dangerous through carelessness or otherwise, of the company? Would the company be liable under this compensation act to the outsider the same as to an employe?

Mr. Crownhart—No; it has nothing to do with outsiders.

Q—It just applies to employes?

A—It only applies to your employes.

Q—Then, in the case of a person taking advantage of this compeusation act, he must be an employe?

A—You are not covered as to public liability.

Mr. Thwing—Suppose the janitor in your building carelessly leaves a cake of soap at the top of a flight of stairs and later on this janitor stepped on that cake of soap and broke his leg. Would not that *per se* make it a hazardous occupation, and could not he recover damages?

Mr. Crownhart—The compensation act does not depend on whether or not an occupation is hazardous in our State.

Mr. Thwing—It does in Indiana, I know.

Mr. Crownhart—It would apply to the janitor, for instance, if he were engaged in your business. If he were engaged at your house or outside of the business, it would not apply to him.

Q.—Suppose it was a servant in your house?

Mr. Crownhart—It does not apply to a servant in your house. It applies to your business, trade or profession. You elect to come under this compensation act not for your servant in your house; that is not your trade or business. We will assume that it is the gas company to which you are referring, and a janitor who takes care of your office building. In cleaning the stairs he leaves a cake of soap there goes up the stairs then afterwards comes back and steps on the cake of soap and hurts himself. The company then would be liable. [Laughter.] That is one of the hazards of the business. The theory of the law is that these things will inevitably happen, accidents will happen in this line or business; that the world owes everybody a living; that somewhere at some time all things have to be liquidated. If you did not take care of this fellow that was hurt, or if this industry did not take care of him, perhaps his wife would have to care for him, would have to take in washing, or the children would have to stay out of school and work. Therefore, as a policy of law, it is better to take care of all the fellows hurt by the hazards of the business. Some employers say it is not right to place this burden on employers, where the man is careless. Now, it is only put on you, in the first instance, just the same as the breaking of your machine is put on you in the first instance. Your rates are going to be based on your expense account and profit added; eventually the public has to pay. It is only taking this means of first making the payment. It is based on loss of wage. The man falls on a cake of soap and breaks his leg. He was earning, say, anything up to $750 a year; we do not take into consideration anything above that; but if he were earning $750 a year or less he would be entitled to 65 per cent. of his wages, while kept away from work. When he became able to go back to work his compensation would stop. In other words, you carry him on the payroll for 65 per cent. of his wages, within those limits, until he shall have received $3,000, or until his disability ceases, and he has gone back to work.

Mr. Thwing—If a man did the same thing at home, through the carelessness of his wife, he receives no compensation and becomes a burden on the community. Why should not the community pay in this case?

Mr. Crownhart—There are accidents in business and out of business. Of course, this law only applies to accidents in business; it does not apply to accidents outside of the business. If you get back to the broad question of humanity, the public ought to take care of that fellow in a certain way, and it will. Perhaps it will be through a private association, perhaps he will be able to take care of himself. We do not know how these work out, but somewhere those things have to be liquidated. Under this act you must pay him 65 per cent. of his loss of wage, but always within this limit of $750 a year. When he gets back to work the loss of wage stops, of course, for he is earning his wage again. There isn't any question or litigation; you just go on and do this. This takes the place of lawsuits; he cannot sue you; you are both under the act.

Mr. Schall—Does the insurance company guarantee payment of these claims?

Mr. Crownhart—Insurance companies simply insure that the injured man will be paid any recovery under $5,000, under the old law. A better way to put it is that they were wagering that the injured man would not be paid. That was the idea they had; they were betting that he would not get anything.

Mr. McCorkindale—They would not pay anything unless forced to.

Mr. Crownhart—That is it exactly. If they insure you under the

compensation act they will pay this fellow if he gets hurt, and that is the difference. Let us see how it works out in dollars and cents. We are taking a broad average here. Under the old insurance law you paid the insurance company, in effect, to litigate; and I will show you that that is absolutely true. Sixty per cent. of the premium that you paid to insurance companies went to the expense account. Wisconsin had the highest average of any State in the Union, and only 40 per cent. of it came back here in the way of payments to men who were injured; and of that 40 per cent. the man that got hurt did not get it; as the lawyer divided with him, you understand. So it is figured that the injured employee did not get over 25 per cent. of the money paid for premiums. Under this compensation act you see where it goes direct. There is no sifting out. You can pay a good deal more money to the injured man and still not pay any more money out of your treasury; that is the advantage. Let me illustrate. We have had about 900 accidents under the Workman's Compensation act; 650 of those have been completely settled and disposed of. Out of that 650, only 13 have ever been passed on by the Commission. You are the Court, the judge and jury, you see. You take this man in and say: "Here is the law; you are entitled to 65 per cent. of your wage while you are laid up. Come every week and get it or send your boy or your wife and get this wage." That is all there is to it. It is a simple thing, and that is just the way it has worked out. It was thought that the commission would be called upon to sit almost in continuous session to hear these cases, and yet, as I say, we have had only 13 of them.

Mr. Schall—Where the insurance companies contest the compensation act, how does that affect the employer and employee?

Mr. Crownhart—There is just this difference in contesting it. The law provides that there are only three grounds upon which an insurance company can contest the order of the Commission: One is on the ground that the Commission is outside its jurisdiction altogether, that it is a case which the commission has no right to consider. For instance, where the employe was not under the law or you were not under the law. If we took such a case as that, the courts could set it aside; second, where our judgment or award does not follow our findings of fact—such cases, of course, would be very rare; third, where the commission is guilty of fraud or misconduct itself.

Mr. Lyons—What is the protection against malingering?

Mr. Crownhart—I will come to that. Perhaps you do not all understand the exact meaning of this term malingering. I did not understand it until a year or so ago, and perhaps I had better define it. Malingering is a term used to characterize the conduct of a man who pretends to remain sick in order to draw his compensation, or pretends that he is sick when he is well enough to go back to work. Now, what is the protection against malingering? Under our law it is provided that the Commission may appoint an independent physician. We will suppose you have somebody in your employ who you think is ready to go back to work. He thinks he is not, and you put it up to the Commission. The Commission has selected a physician of its own volition, and it sends him there to examine the fellow to find out, if possible, whether he is ready to go back to work. We would be guided very largely by what this physician said about him, because it would be something, perhaps, we could not figure out any other way. Physicians have methods and are skillful, and if they are independent and are working for the Commission, merely trying to find out the truth, we believe they will be able to find it out. Then the Commission will take action against that kind of a claim. Out of 650 compensation cases completely settled and disposed of, we have not had a complaint on account of malingering. I do not believe that it is as common as people thought it would be. It is more or less common in some of the old countries, but there is a different class of labor there. In the first place, you see, a man is only getting 65 per cent. of his wage, and if he has any ambition at all, he wants to get 100 per cent. of it. So he is not apt to malinger. As to apportioning this loss. You must understand you are not paying all the loss anyway; that this workman stands all the pain and suffering that come from this accident; that he stands 35 per cent. of the loss of wage. It is figured out that is about all he ought to stand, and that the rest should be distributed through you to the public. The law is based on the loss of wage. Some publicity has been given to an award the Commission made which is being contested in the courts. Let me explain that to you so you will see just the point. Our law is based on the loss of wage in the employment in which the man was engaged when he was hurt. A man in Mellen while running a shingle machine (he was a shingle sawyer), got a finger and one thumb cut off. The award was something like $2,700, extending over 15 years, which would make it at present worth (because you can buy this annuity with allowance for 3 per cent. compound interest for about $2,218. That was the award made, and it was claimed that that award was very large. It was a large award; I concede that. It extends over a long period of years. This was a case of permanent disability, not total, but permanent. It will last as long as he lives. The fact is that this man worked in a crew of 5 in the shingle sawing business. There was the shingle sawyer, two knotters (who took the shingle after it was sawed, cut out the knots and straightened it up), and one packer and a nailer, making five altogether. Now, any inefficiency extending to this shingle sawyer extended to the whole crew. If this shingle sawyer, after he got hurt, could make but half as many shingles as he did before, he would not be entitled to as much wages as he was before, because that inefficiency extended throughout the crew; and they would not take him on. If he made 10 per cent. less shingles than he did before, it would not only be 10 per cent. off his wages, but 10 per cent. off each one of the others who worked with him, because they worked in crews. So that it was nearly a total disability, so far as his employment was concerned. We treated his employment as anything along skilled labor in shingle making; but there was no employment in shingle making that he could enter. He could not act as nailer, packer, knotter or sawyer, so that made his compensation large. Let me take the reverse and show how it works out in averages. A man in Kenosha lost a finger while operating a machine in a woodworking factory. As soon as the finger got well he went back to work at a better wage than before. They have numbers of machines there, and he could operate the very machine on which he was working, just as well as before, and he got something like $29 while he was laid up. This was a very exceptional case; but the average works out well. An amendment to the law may be necessary, but I have no doubt, although that case went into court, that the judgment of the Commission will be sustained. We have no particular pride in having our decisions sustained, but we believe that that is the true rule as laid down in our law.

Mr. Lyons—Suppose a man should die before the end of the 15 years?

Mr. Crownhart—The award would go to his heirs. It is like a judgment in court. When you get a judgment against you it belongs to the the fellow who has the judgment.

Mr. Haase—If a common laborer should be injured, in such manner that his hearing became permanently defective, could he recover for that?

Mr. Crownhart—It all depends on whether there would be a loss of wage.

Mr. Haase—Supposs it did not incapacitate him for the work at which he was employed at the time?

Mr. Crownhart—If there was no loss of wage, there would be no recovery.

Mr. Haase—And he would be entitled to no compensation?

Mr. Crownhart—No compensation. It all depends on the question of the loss of wage in the occupation or employment in which he is engaged. However, we do not treat the term employment too narrowly. For instance, a fellow employed as a stevedore on the docks at Superior had parts of two fingers cut off. At the time he was working he was trundling a freight barrow. The employer made the contention that this man was a truck wheeler; that that was his occupation, and that his injury did not prevent him from following that occupation. The Commission said: "No; that is not broad enough; he is a freight handler, a dock worker, and we must treat this injury with reference to his loss of wages in any one of those general lines of work." That was really his employment—it was not really truck wheeling. But it was clear that he could do this with the loss of those tips of fingers as well as before; so he did not get any permanent compensation.

Mr. Thwing—You impress me forcibly respecting two accidents to which you have called my attention, one in the shingle mill, resulting in the disability of the man to perform his duties, where the award given was something over $2,000; the other one, which did not result in such disability, although it was the same kind of an accident, where a very small award was given. Now, there are two individual cases where the employers are equally blameless or to blame, but the one is penalized on account of the fact that the accident interfered with the man working at his particular occupation.

Mr. Crownhart—I would not call it penalized. I would say that it was exactly the case of a machine breaking. You have a machine broken that cost $3,000; the other fellow is more fortunate in his machine that breaks, and it only costs him $25 to repair it. It is one

of the losses of the industry—one of the fortunes of war, you might say. The employer is not penalized or blamed for the accident; but this law provides for taking care of those things. The same thing would happen under the old liability law. People do not seem to understand that or stop to think it out; but this man at Mellen, under the old liability law, would have been paid on the same basis, only he would have been paid for his suffering and pain besides, whatever the jury might say that loss was; but the jury could take into account exactly the same things. That that man had been deprived of his ability to work; that he had fitted himself for a life occupation; that it was a skilled employment; that he was getting $3 a day, etc. That same rule would have applied to this man in Kenosha; that his loss of wage would not be serious; and the jury would have been instructed by the court that his damage was not so great as that of a man who lost more by reason of the injury.

Mr. Lyons—I had in mind the improvement of conditions, so that the excessive amount on the one side and the small amount on the other could be spread over the industry in some way.

The Secretary—Again referring to the case mentioned by Mr. Haase, citing the instance of a man losing his hearing as the result of an accident, although the loss of the hearing did not deprive him of any wage, or did not bring about any loss of wage. Are the doors closed against his having any further remedy on account of his loss of hearing, in that he is deprived of the enjoyment of many of the pleasures of life as a result of such injury.

Mr. Crownhart—Such is the share of the burden that he takes. He has to take it all. There is no theory of the law by which you can work these things all out and have exact justice done.

Mr. Lyons—The man working in the shingle mill might be fitted to enter into some other employment and not be incapacitated.

Mr. Crownhart—Yes. The amendment I would suggest with reference to that work is that you add, after the words "this employment," the other words, "or similar employment." For instance, if a stenographer should lose his little finger so that he could not operate the typewriter, he might earn as much money by clerking, and that should be taken into consideration. I do not think you should take a skilled mechanic and say he has to work in a ditch; that he has to go back; but I would amend the law so as to cover any employment of a *similar* grade. I think that amendment should be made to the law, and in that case it would help the man at Kenosha a little.

Mr. Schall—The man has always the privilege of insuring himself against accidents.

Mr. Crownhart—Yes, that is the theory of making the limit $3,000, which limit is not enough to compensate for all these injuries; and if a man has a salary of over $750 a year, it is figured that he can use a little of that salary towards insuring himself, thus increasing his compensation. It is to take care of the average man who is not able to take care of himself.

Mr. Stroebel—Going back to the case of the shingle sawyer; his efficiency was reduced about 10 per cent.; would this compensation act have any effect in his case, if he went to work for some other employer?

Mr. Crownhart—That would make no difference, so the law on the average is all right; but other employments of a similar grade should be allowed. Such an amendment should be made. But I am not the legislature and I do not know whether it will be made. You are taking this thing into considesation now as it is, but your average works all right as the law is now. You probably would not pay any more than you would after the amendment was made. In the case of the man injured at Kenosha, there may be similar employments that he could not get into, and for that reason under the amendment he might be entitled to a little more compensation than was given him; but the average and total will work out about the same.

Mr. Benedict—Of all the accidents considered by the Commission, that was the only one accentuated in this way; the only peculiar one.

Mr. Crownhart—Yes; that is the only case where any complaint had been made. It is a case where the insurance company is trying to get in between really what is right and save a little money for itself; but I am not blaming the insurance companies. We invited this contest to determine definitely what the law is, and we are glad the company brought this action. It will be disposed of finally in a week or so; then we will know whether we made a mistake or not. I want to take one more extreme case that we have had, that happened in Milwaukee, on the street railroad. I am taking these matters up as illustrations, because you can see how the law works out practically. The street car company takes conductors and trains them for 10 days by putting a man on the car with them who explains definitely what the duties are. The company trains its motormen in the same way, by putting a man on with the motorman for 15 days. Then they have established a rule that the motorman under no circumstances is to take the conductor's place, and the conductor under no circumstances is to take the motorman's place, because their training is entirely different, and they are not trained to exchange places. This rule has been enforced in every case that came to their attention. It is not a rule that had been abandoned. I waut to make that distinction on the question of wilful misconduct. You may establish rules, posting them up in your factory or workshop, as to what your employees are to do. If you expect the men to take them into consideration you have to take them into consideration yourself. You can lay out a highway, yet if you go away and abandon that highway long enough it ceases to be a highway. So with rules. When you make a rule that you are going to ask the Commission to help you enforce by taking away compensation, you have to see that this rule is in force in fact, and that it is a live rule in your shop. The street railway company had enforced this rule in every case. There are two trolleys on the local cars, and at the end of the line, the conductor takes down one trolley and fastens it, the motorman puts up the other, and then they change ends on the car. The car does not change, but the motorman goes to the other end of the car, and *vice versa*. The conductor went into the motorman's place and started to run the car back. The car got away from him and struck a curve at a high rate of speed. The conductor jumped out and was killed. That was held by the Commission to be willful misconduct on the part of the conductor. I do not think, if there had been an emergency that called the conductor to the front of the car to take charge of it—for instance, if the motorman got hurt or became sick and could not handle his motor, and they had to get that car out of there—I do not think we would have held him guilty of misconduct. But there was no emergency or excuse in the record to show why this conductor did that, except the mere desire to run that car, against the positive orders of the company. We held that that was misconduct. That is another case, and is one of only two cases at present to be tested out by the courts. Coming to the question of insurance. Some of you who do a large business, and probably carry your own insurance, can do it better under the compensation law than under the old law, because the limits of liability are fixed, and fixed at a fairly low rate—$3,000 in any one case; whereas you might not be able to do it under the old law. I think the insurance rates are too high for compensation insurance; I refer to the old line liability rate. A mutual insurance company is issuing insurance under liability or compensation, that seems to be doing a good business and seems to have a rate high enough. But for two reasons I would say that the old line companies' rates are too high. The old line companies were not in favor of compensation. They did not believe in it to start with. They thought it would interfere with their business eventually and might lead to State insurance, and it has led to state insurance in some other States like Washington and Ohio. And they started in, in my judgment, to try to discredit these compensation laws. That is one thing that led to the higher rate. Second: Failure on the part of insurance companies to understand the law. They got together in a combination—there may be one or two companies outside of it—but there were a great many of them that got together in a combination. I think they got the same attorney and he wrote the preface to the rate book, telling what this Wisconsin law meant. It was put into the rate book and circulated in all the insurance companies' rate books in this State. The attorney who told what this law meant did not take very much care in reading it, so that when I called the Insurance Commissioner's attention to the gross misstatements of the law, the insurance companies were all ordered to withdraw the rate-book, and they were compelled to withdraw it. You have to know the law before you can make a rate; you must know what the law provides in the way of liability before you can fix a rate; and the companies did not know what the law provided. One thing further that I have not told you about, is the first aid which has scared the insurance companies, perhaps more than anything else. A man is entitled to be cared for during the first 90 days of his injury, to cure or relieve him, and that care shall be such as is reasonable under all the circumstances. The Commission is the final judge on that question. The insurance companies say that this first aid relief is altogether too large, too much; that it extends over too long a period, and that there is no limitation to it. I think it is the best feature of our compensation law. If you are going to cut down anywhere, cut

down on the compensation, but do everything that you can to get this man fit to go to work. [Applause.] It is for your interest to do so, because every day he is laid up you have to pay him compensation; and it is you who gets the doctor and furnishes this relief, to see he gets back as quickly as possible. But do not do as they have done in New Jersey, and say that, at the end of two weeks, this relief shall stop; while the man is lying on his bed of pain, in the hospital, perhaps, without anyone to care for him—cut off the relief at the end of two weeks. It is absurb. So I say this is the best provision in our law and it is true that it is the most liberal provision of any of the laws passed on this subject. In taking this point up with the Employees' Mutual Liability Insurance Company, of Wausau, the officers say they would not want that changed at all, because it is to their advantage to give every injured man this care and to get him back to work. And it is to your advantage in another way: You furnish this doctor to look after the injured man and he will help you see that the injured man does not malinger.

Mr. Schall—As to insurance companies that insure against that compensation act: Will they allow you to reimburse, under the statutes of this State, your employees in any way during that period?

A.—They have nothing to say about it.

Mr. Schall—They do in some States?

A.—Yes, that may be; but they have nothing to say about it in this State. The law says you shall pay him.

Mr. Schall—The statutes in some States absolutely prohibit the employer from compensating his employee in any way.

Mr. Crownhart—That is not the law in this State; and I am not sure that you are right about that in any other State.

Mr. Schall—I mean the insurance company, not the act.

Mr. Crownhart—Oh, the insurance company. Such a provision in a policy in this State would be absolutely void, and the commission would not tolerate it for a minute. The Commission has a right to order immediate relief, and would do so. If you do not pay it the Commission has a right to assess you 25 per cent. additlonal, and will do it quickly, because the purpose of this law is to get relief to this man without expense, and get it to him quickly. Of course, where there is a *bona fide* defense, the Commission will not impose 25 per cent.

Q.—As to this first aid: Most men have their own family physicians. Suppose the patient objects to the physician provided by the company and wants his family physician, such physician being a higher priced man than the company's physician; would not the injured man have a right to insist on having his own physician?

Mr. Crownhart—He has a right to hire his own physician, but you do not have to pay for it; that is the point. If you get under this compensation act, you are not going to try to follow any hard-and-fast rule on that thing. If the physician the injured man wants is a good one and he does not cost you any more than your own, you might as well take him.

Mr. Schall—The point is brought up that the insurance guarantees, and the company does not want you to pay anything.

Mr. Crownhart—That is the old law; it is not compensation. The insurance company guarantees that it will pay this liability.

Mr. Schall—I speak of the laws existing today in some States.

Mr. Crownhart—That is the old liability law; it was once the law in this State. I think that you gas men could combine and carry your own insurance if you wanted to. The law is simple with regard to the organization of mutual companies. Most of these combinations are against the public. You could combine quick enough if you saw some way of increasing your profits with propriety.

Mr. McCorkindale—We would save some money. In the last six years we have had the gas, electric light and street railway business in two towns, and have spent $7,000 on employers' liability insurance. The total claims the liability companies have paid were $750. [Laughter.] Under the company liability plan, if a man had a small accident the insurance companies would not pay a cent unless suit was brought. We have paid the man his wages for 4 or 5 days or a week; and, as I say. we paid $7,000 in premiums, and the companies paid $750.

Mr. Crownhart—Many companies have been furnishing relief of their own. I want to give you the actual record of what was done under this compensation act up-to-date. There are about 400 employers under the act, with about 60,000 employees. That constitutes about 30 per cent. of the employers who could come under the law in the State. It is not 30 per cent. in number of employers, but includes many large ones. I think probably about 180,000 employees in this State could properly come in under this act. The act has been in operation for 8 months, and they are coming in rather steadily. For instance, it is running about from 40 to 60 employers a month, who keep coming in right along. When I left Madison 22 had already joined in May and 56 came in in April. The number accepting this compensation is constantly increasing. There have been 942 accidents reported to us under the compensation act. Of these 654 are closed; there is nothing further to do with them. In 133 cases no compensation was claimed. They are usually cases where liability was reported, but the man came back to work; it might be that the injured man remained off a ½ day or a day; he did not ask for compensation and nothing was done. Sometimes a man gets hurt and walks right off the job and never says another word. Many foreigners do not understand their rights, and we are not able to find them; they are small cases. There are 155 cases pending; that is, 155 cases where employers are paying this compensation, but have not got it all paid up and have not made a final report. The amounts paid have been tabulated; but unless a man is skilled in analyzing these figures, I do not believe it would be very helpful.

Mr. Schall—Under the statutes do they have to report these cases to you?

A.—Yes; the same report has to be made whether one is under the compensation act or not. That is for statistical purposes; 27 per cent. of the accidents reported to us are under the compensation act. In conclusion, let me read you a few letters, because I think you will be interested in knowing what others think of the compensation act. I will not disclose the names in this correspondence, for I have not the permission of the writers. They did say not to disclose the names, but when I wrote asking for their experience I said we would not disclose their names without permission. I have not asked such permission; but they are all representative manufacturers or business men in this State. One correspondent says: "We are satisfied with the law and we find that our employees are also satisfied. So far we have no criticisms or suggestions to make for amendments or for the method of administration. As for cost, before we came under the act we carried insurance with liability insurance companies, and also workmen's collective insurance. When we came under the act we cancelled all this insurance and have been running without insurance. From August to date we spent a little less than the cost for the insurance, considering both forms of insurance. The cost has been somewhat more than the simple liability insurance, but we considered that the insurance protected us only against lawsuits; and we were interested in our employees who, in case of injury, were worthy, and would not sue, and we carried compensation insurance for them which was fairly expensive. We dropped all that insurance, and the amount we paid out for injuries and attendance since we came under the act is somewhat less than our insurance cost would have been. This includes both plants. We have had only two cases where the employee was slightly injured and tried to make the most of his injury. We acted upon our physician's advice in those cases, called the men in and talked squarely to them, with the result that they went back to work, and we believe were entirely satisfied. There might be some chance for wrong doing by the employer in such cases, if the employer does not know what recourse he has, and being ignorant on the subject under the act, he understands he has no recourse to the courts. We were favorable to the law from the first, and are much pleased to note its success in our mills, and also to note that other employers in neighboring mills have changed their insurance and come under the act."

Here is a letter from another correspondent: "Answering your favor of the 6th inst., we are very much pleased with the workings of the workmen's compensation act thus far. In fact we have been in favor of it from the beginning. It not only saves us considerable trouble, but stipulates the exact amount of compensation to be rendered to the injured and makes the settlement more satisfactory to the injured man himself. We believe in the long run it will cost us less than our expense for injuries amounted to previous to our coming under the act, although we have not operated under it long enough to be able to determine that definitely. We certainly would not favor the repeal of the act; and while there are probably some features which could be improved we do not feel at this time that we would care to even recommend any change. as the law seems to be fair to both emplorer and employee."

Here is another letter from a lumber company: "As to our being satisfied with the law we will state that, as we have been under it for only 6 months, we are not prepared to state definitely our views in this matter any more than that up-to-date it has worked out to our satisfaction, and, so far as we know, to the satisfaction of our em-

ployees. There is one amendment which we think would work to the advantage of both the employer and employee, and that is when an employee is killed, and the compensation becomes payable, there should be about $200 payable at once to take care of funeral expenses and present needs, the balance to be paid in the manner prescribed by the present law. We had a case of this kind with one of our employees. The widow had no money or means of raising any; and our company donated outright $100 in addition to the amount she was entitled to under the law." As to a case of that kind, if you should have such an accident, and wanted to advance the money to the widow, who is the sole claimant, to take care of funeral expenses, the Commission would consider that as part of the compensation, and they could have done that, only they did not have the right to do it. Here is a communication from another large lumber manufacturing concern:

"We believe that the old doctrine regarding compensation for workmen was not fair to the employee. It is too early for us to state the cost under the compensation act as compared with the cost under the old liability act; but one feature of the situation commends itself very decidedly. Whatever money we are paying now we are paying direct to our employees, and we hope that a better feeling will result. We have not taken out any insurance since the compensation act came into force. In the long run we expect that losses under the act will be heavier than the insurance we formerly paid; but as the act protects us against excessive verdicts, often likely to be given by prejudiced juries, we are in the whole regarding the act with great favor."

Here is a letter from a concern manufacturing caskets, etc.:

"We are entirely satisfied with the law and have not heard a single complaint from our employees. We have not any amendment to suggest in the law or the method of administration. As to the relative cost to us under the act compared to the cost under the old liability law, can say we carry our own insurance and have created a fund, setting it aside to cover loss. We pay into this fund 1 per cent. of the moneys paid out for labor at the end of each month. We have already created a very nice fund which is earning money and growing. In addition, of course, we have equipped our machinery well and have reduced the hazard to the lowest point. I think this is the greatest thing about the compensation law—to reduce the hazard. Herewith we also send you little booklet given to each employee, and its provisions are rigidly enforced."

A man at the head of a large elevator concern which runs two grain elevators in the State, but who lives in Minneapolis, says:

"We have hardly had any chance to find out how the compensation act is going to work out; and we hardly know whether to say we are satisfied with it or not. We rather think it is a good thing from all viewpoints, and also from our employees' standpoint. They seem to be satisfied with it, and we rather feel it is a good thing for them. As far as relative cost goes under the compensation act compared with the old liability law, would say that the only difference we have noted up to date is the advanced rate of our liability insurance." [Laughter.]

Here you get it—(reading):

"Under the old law we paid in the neighborhood of $90, whereas now we pay in the neighborhood of $300 per annum."

Three and a-half times as much—(reading):

"This part of the working of the law is not entirely satisfactory." [Laughter.]

Here is the point. I think this fellow has caught onto it—(reading):

"We believe the insurance liability people are making altogether too much stir and fuss about the Wisconsin compensation act; but of course time is going to tell as to whether they can carry this liability insurance as cheap as they could under the former arrangements."

I agree with him on their making altogether too much fuss. The following letter is from a boot and shoe manufacturing concern:

"We have your favor of the 7th regarding the working of the compensation act. Since coming under the law we have been very fortunate in the matter of accidents, and I believe have only drawn $10 from the insurance companies. We made it a rule in the past to pay wages in full in case of accident; we now pay only what the law requires. This may work to our advantage. It has been suggested by some who are opposing the law that there will be abuses arising therefrom; that a workman might intentionally injure himself for the sake of drawing compensation without working. This claim I have never believed to be well founded, and have never heard of any such case. We carry insurance in the Wausau Company and shall probably pay a great deal more money in a term of years than we would be required to pay under the law without insurance; and we quite strongly questioned at the time the advisability of carrying our own insurance. There is, however, a feeling of security and protection that we do not have when we are not insured."

Starting the inquiries out about a week ago, these answers are beginning to come in, and they afford a fair sample. Only one letter received found fault with the law. It was from a gentleman, who, after he elected to come in, tried to back out, but could not. His objection does not come from his experience, but from his misunderstanding of the law. He has not had an accident since he came under the law, and there could be no reason for his attempting to withdraw.

Mr. Knight—Do the employees have anything to do about coming under the law?

Mr. Crownhart—If you file your notice with the Commission then you are under the law.

Mr. McCorkindale—That is, the employer?

Mr. Crownhart—Yes. The employee then has 30 days to decide. If he lets the thing run, at the end of the 30 days he comes under the law, and all the employees you hire after you come under the law automatically unless they give notice at the time.

Q.—Do you have to notify them at the time?

Mr. Crownhart—No. To any employee you hire after you elect to come under the law, you do not have to notify or say anything; he comes under the law.

Mr. Thwing—Could a refusal to come under the law be made grounds for discharge?

Mr. Crownhart—Yes.

Q.—Could that be made a reason for discharge?

A.—Yes. You may make such refusal the basis for discharge.

Q.—The law does not prohibit you assigning that as a reason?

A.—No.

Mr. Lathrop—If a man elects to come under the law, how long does that election continue?

Mr. Crownhart—Until you cancel it, and you may cancel it at the end of any year. Ten months after you elect to come under the act you can give notice to the Commission that you do not desire to remain longer. Then you go out at the end of the year, which you can do at the end of each succeeding year.

Q.—No formal notice to the Commission is necessary if you wish to continue?

A.—No: not if you wish to continue. You do not give any notice at all in that case.

Mr. Thwing—How do foreign corporations stand under that law, such as contractors who do contract work in the State of Wisconsin?

A.—The same as domestic corporations. We have a good many foreign corporations under the law.

Mr. Butterworth—Would that foreign corporation have a standing if it had not filed notice to do business such as is required of foreign corporations?

A.—I think they would not be affected under the law.

Mr. Butterworth—Certain kinds of foreign corporations have to pay a fee and file declaration with the Secretary of State?

Mr. Crownhart—They are only penalized as to their contract. They cannot enforce their contract; I think that is true.

Mr. Stroebel—Does a municipal plant come under this act—without application?

A.—Yes, all municipalities come under the law by force of law. The reason they did not put all employers under the law was because the New York law was held unconstitutional. But as to municipalities, they could make it compulsory for them.

Mr. Humphrys—Have employees the right to withdraw their election when working for a company under the law?

A.—No; and not a one has refused to come under the law. They cannot get out of it.

Mr. Schall—In some States it appears that a public service corporation has to file a report of the condition of its affairs once a week.

Mr. Crownhart—Yes.

Q.—Not being acquainted with the statutes of Wisconsin I would inquire whether this compensation act would have any bearing on that case; whether or not it is a law in this State, I don't know.

(*Continued on page* 170.)

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NEW YORK, MONDAY, SEPTEMBER 9, 1912.

[Official Notice.]

Fall Meeting, New Jersey State Gas Association.

New Jersey State Gas Association,
Office of Secretary,
Belmar, N. J., August 26, 1912.

The fall meeting of the New Jersey State Gas Association will be held at Atlantic City, N. J., at the office of the Atlantic City Gas Company, Saturday, September 21st, 1912, at 1:30 P.M. Train from New York leaves Pennsylvania station at 10:12 A.M. The meeting will be devoted to lighting. The subject of high pressure will be covered by Mr. George S. Barrows and Mr. R. N. Zeek. Mr. Will W. Barnes will speak on "The Rejuvenation of Gas Fixtures."

Manufacturers who are members of the Association have been asked to exhibit the new lighting appliances for the fall season. Dinner for members and guests will be served at Haddon Hall, at 6 P.M. Members are cordially invited to bring guests, but are requested to advise the Secretary promptly of their intention. Those desirous of obtaining further information regarding the Association and its meeting are requested to communicate with the following:

New Members.—Mr. O. F. Potter, 759 Broad street, Newark, N. J.

Arrangements.—Mr. J. C. Lightfoot, Jr., Real Estate Trust Building, Philadelphia, Pa.

Papers and Exhibits.—Mr. H. Thurston Owens, 42 Pine street, New York.

Very truly, A. H. Osborn, Secy.

[Special Editorial Correspondence.]

THE FIFTH ANNUAL CONVENTION, CANADIAN GAS ASSOCIATION.

King Edward Hotel, Toronto,
September 3d, 1912.

The Canadian Gas Association to-day completed its Fifth Annual Convention, at least, in so far as the technical division thereof was concerned. With every succeeding year Toronto becomes more like an American city; or to put it plainer, more like the best of the cities of the United States. Always an attractive place, the vim of its residents to-day finds vent in reconstruction and extension, the perseverance which will, ere a quarter century has been added to its age, cause it to be one of the show business and home places of the Continent. Clean thoroughfares, fine structures, both of the public and private order, polite policemen (absolutely so!), good hostelries, all show you a modern city in which practice banishes promises. It may have been that the Canadian Association knew when it accepted the proposal of the Michigan Gas Association last year, that their sessions this year should be of the joint order, that the Canadian National Exhibition would be in full swing in Toronto during the days set apart for the opening of the joint Convention; but we doubt if they themselves knew what a crush this years' Exhibition would prove. Crush it was, though; and at least 20,000 visitors were in Toronto to-day, at least 30 per cent. of whom elected to stay over night, wherefore places to lay devoted heads were scarce. However, all's well that ends well, and it speaks well for the hospitality of the city that all found shelter. It may be that some sharp hotel "hosts" made sweet hay out of soft grass; but in main "gouging" was left to the little. Tuesday here opened raw and spotty in raindrops, but well towards afternoon fair skies crowned the zenith, although the nadir was marked by what one Torontorian termed the "most summerlike afternoon of the summer." Punctuality marked the membership, for it was a trifle before 10 A.M., when the President, Mr. Arthur Hewitt, the directing genius of the Consumers Gas Company, of Toronto, called the meeting to order. The clever gentleman must have felt complimented for confronting him sat the best representatives of the gas industry of the Dominion, and with them were the representatives of the gas industry of the States, really in large number. Amongst the visitors were Mr. W. J. Clark, the active man in the Westchester Lighting Company, of New York, and the really responsible organizer of the National Commercial Gas Association; the man whom we all love, in the person of James T. Lynn, back home from a trip that carried him through the jungles of India and the spiced airs of Ceylon, every whit the same old "Jim;" and our own Howard Mann; yes, still "our own," even though his lines now lead him through the gas travails of historic Montreal. But, for fear that this personalizing should cause trouble as to the limits of the Journal space, it is a fact that 30 per cent. of the attendance was from the States' side of the St. Lawrence. Aided and abetted by the minstrations of hearty Jno. Keillor, as Secretary, the routine of the meeting was expedited in a way that might cause wonder during some of the weighty meeting sessions of the Engineers' Club (it was through the courtesy of this body that the Association held its sessions in the Club's well appointed hall on King street). The first real business in the routine list was the report of the Executive Committee. The main topic handled by the Committee was the reference to the unfortunate condition of affairs in the domestic economy of Canada which puts, for instance, the control of the gas supply (and the electric lighting supply as well) in the hands of the department of Inland Revenue. It was suggested that a divorce of the spirit industry and of the gaseous industry would be much better for the latter, especially so in remembering the fact that in the last 10 years the Inland's treasury had received sums, on lighting inspection account one way or another, amounting to $300,000. No wonder the lighting industry seeks exparte tribunal for its doings with the States. Next came the President's address, which was an excellent review of the gas industry happenings relating to the Dominion in the year; and it was further noteworthy for a beautiful reference to the memory of Mr. McNabb, whose tragic death was duly noted in the Journal last fall. While the Nominating Committee was wrestling with its duties the President introduced Mr. W. J. Clark, of the Westchester Lighting Company, of New York, whose characteristic acknowledgement of the honor confered caused hearty laughter. The report of the Nominating Committee was then considered. It favored these office bearers for 1912–1913:

For President—Arthur Hewitt.
" *First Vice-President*—A. A. Dion.
" *Second Vice-President*—C. T. Wilkinson.
" *Secretary-Treasurer*—John Keillor.
" *Executive Committee.*—Messrs. J. S. Norris, J. M. H. Young, R. A. Wallace, P. S. Coate, J. P. King.

Mr. Hewitt was not at all disposed to accept a re-election, but some cogent reasons which were advanced in combating his objections persuaded him to accept the inevitable; for, whether or not, he certainly would have received aa unanimous indorsement. So with Mr. John Keillor, but the Association, not being disposed to let a good thing go, held him in the traces. The place of next meeting was referred to the custody of the Executive Committee. This brought the order up to the reading of papers. The first listed was the story of "The Reconstruction of an Old Retort House," which was telling

ly told by Mr. Howard E. Mann—Howard seems to be losing some of the graceful lines that marked him during his stay in Cleveland, O.; but the change, slight though it is, seems to have added to his suavity; if such were possible, for his recital of how some of the queer acts of the former proprietors of the Montreal Gas Company were blotted out, was told without a single fling at that administration. It was a story of troublous work satisfactorily done. The second number was the paper by Mr. H. E. G. Watson, of the Consumers' Company, of Toronto, whose statement showed the success attended his way respecting "Suggestions for Increasing the Industrial Use of Gas." Toronto was slow to move into this line of work, but was remarkably swift in prosecuting it, once started, to a wonderfully successful stage. This brought the hour for recess, and the cleverness of the Arrangement Committee was shown, and the hospitableness of the Engineers' Club well exemplified, through a planning under which the members had lunch in the dairy room of the Club. The afternoon session was commenced with the reading of an excellent paper, by Mr. J. J. Armstrong, Chief Accountant of the Consumers' Company, of Toronto, whose theme had to do with "Consumers' Accounting and Records' System." Formerly a resident of New York city, Mr. Armstrong's plan of accounting, although devised by him on Dominion soil, savors of New York methods, and its application, in many points at least, would be as useful in many New York State instances as it has proved valuable in Toronto. Next was the paper by Mr. C. H. Osler, Superintendent of Distribution for the Montreal Company. This paper showed that, as the manufacturing plant in Montreal was, so also was the distributing plant. Inequality piled on inequality was the system he was called upon to remedy, and his recital (illustrated with and by a huge sectional map) was a vivid narrative of mistakes rectified, at much cost of thought and expense. The final numbers were these: "Gas *vs.* Coal for Water Heating Appliances," by Mr. C. W. Allmann, of the Consumers Company, and a description of "Commercial Lighting in Toronto," as carried on by the campaign work of that corporation. The story was told by Mr. W. J. Fuller, and he told it well. This ended the technical sessions of the convention. To-morrow the Michigan Gas Association, as the guests of the Canadian Association, will be entertained in royal manner, the programme calling for a start at 10:30 A.M., and an ending at or near to the midnight hour.—T. J. C.

BRIEFLY TOLD.

DEATH OF MR. FREDERICK J. MAYER.—The sad news of the sudden death, on September 1st, of Mr. Frederick J. Mayer will undoubtedly come as a blow to his many friends in the industry. Mr. Mayer, who had been prominently identified with the use of vertical retorts in this country as General Manager of the Didier-March Company, had only been home from a trip abroad for a few days when he succombed to heart failure due mainly to overwork and nervous prostration. A more extended obituary will appear in a later issue.

ANNUAL CONVENTION, ILLUMINATING ENGINEERING SOCIETY.—The Annual Convention of the Illuminating Engineering Society which is to be held September 16th to 19th, at the Clifton Hotel, Niagara Falls, Ontario, promises to be the largest, as well as the most important convention so far held. Among the important papers listed are the following:

"A Symposium in High Pressure Gas Lighting."

1. Great Britain, Mr. F. W. Goodenough.
2. Germany, Mr. Oscar Klatte.
3. United States, Mr. R. N. Zeek.

"Deterioration of Gas Lamps and Mantles in Service," by Mr. R. F. Pierce.

"Series Street Lighting," by Dr. C. P. Steinmetz.

"Steel Mill Lighting," by Mr. C. J. Mundo.

"Flame Arc Carbons," by Messrs. A. T. Baldwin and R. B. Chillas, Jr.

"Lighting of Small Stores," by Messrs. C. L. Law and A. L. Powell.

There will be five papers on "Photometry," by Dr. H. E. Ives, Dr. P. G. Nutting, and Messrs. C. W. Jordan, M. Luckeish and T. W. Rolph.

Papers covering the "Physiological and the Psychological Phases," by Dr. T. A. Woodruff, Dr. C. E. Ferree, Dr. P. W. Cobb and Mr. Bassett, Jones, Jr.

There will be general papers by Dr. E. P. Hyde, Mr. E. L. Elliot. and Mr. W. D'A. Ryan.

Six business sessions have been scheduled for the 4 days, and in addition there will be many enjoyable features of a social order including a reception and a banquet. Those desiring further information should apply to Mr. Norman Macbeth, Chairman Convention Committee, or Mr. P. S. Millar, Secretary, both of whom may be addressed at 29 W. 39th street, New York City.

CURRENT MENTION—

MR CHARLES S. SMITH has been appointed Superintendent of the plant of the Thomas, Roberts, Stevenson Company, at Reading, Pa. Mr. Smith was formerly connected with the Industrial Fuel Department of the United Gas Improvement Company, Philadelphia, Pa. He is a member of the National Commercial Gas Association.

Publications.

[All Publications, Catalogues, etc., mentioned below, are kept in our office for the convenience of our patrons.]

Welsbach Goods.—The August, 1912, catalogue of the Welsbach Company, covers in a brief way the complete line of lamps, mantles and accessories manufactured by them. Write for No. 15.

Hydraulic Main Cleaner.—A new device of an important nature is well illustrated in a leaflet issued by the Evens & Howard Fire Brick Company, St. Louis, Mo. "It keeps the main clean."

Human Engineering.—Under this suggestive title a valuable quarterly magazine is being published in Cleveland, O. It is now in its second year, and the editor, Dr. Winthrop Tabbot, has brought forward many important phases of the human side of our great industrial expansion and development.

Tar Products.—"Agasco" is the name of the tar products of the Atlanta (Ga.) Gas Light Company, and their fame should be considerably enhanced by the attractive pamphlet recently issued describing its merits. If you are interested in tar or art write for a copy.

Night Tennis.—The monthly publication of the United Gas Improvement Company continues to live up to its title, "New Business." A strikingly illustrated article on night tennis is a feature of the September number.

City Light, Seattle, Wash.—The annual report of the lighting department of Seattle, Wash., is a pleasant change from the majority of public reports. It is profusely illustrated and tells of the attractions of Seattle on every page. Write Supt. J. D. Ross for a copy.

Automatic Railways.—The various methods of automatic coal handling machinery are well described and illustrated in Catalogue 12-4 of the C. W. Hunt Company, West New Brighton, New York. Get on their mailing list.

Gas Ranges.—An attractive loose-leaf catalogue of Vesta (the Goddess of Fire) gas ranges has been issued by the Vesta Gas Range and Manufacturing Company, Chattanooga, Teen.

Store Illumination.—Frink designs of store lighting fixtures are described in Catalogue 410 of the H. W. Johns-Manville Company, New York City. Several of those shown can be used with gas lamps.

Gas Testing.—Calorimetry, pyrometry and fuel testing are each described in some detail in three publications of Eimer and Amend, New York city. Copies can be obtained upon request.

Gas News.—The monthly leaflet issued by the Consumers Gas Company, of Toronto, continues to grow, and while it is still small, it's interesting.

Efficiency Society.—Now that the time for conventions is with us there is a new Society which will probably be heard from, the Efficiency Society. Write Mr. H. F. J. Porter, Secretary, 29 West 39th street, New York City, for recent booklet telling of their plans.

Handbooks for Salesmen.—The Boston Consolidated Gas Company has issued a number of valuable pamphlets, 3¼ inches by 6¼ inches, for the use of their solicitors. The subjects covered are: "Gas *vs.* Electricity for Lighting," "Sales Points on Ranges and Water Heaters," "Gas Rates, Sliding Scale and Partnership," "Illuminating Engineering." This method, when carried out without too much red tape, insures that both the new and old employees have had plenty of data from which to build up an intelligent statement of the value of gas for light, heat and power.

(*Continued from page* 167.)

Mr. Crownhart—In this State we have a Rate Commission who fix the rates that public utilities may charge. They allow the public utility, in considering the rate, to charge up fixed expenses and a certain amount for profit—what is reasonable under the circumstances. Whatever you pay out by way of compensation you would be allowed to pay and charge up to a fixed expense, and still make your profit over and above that.

Q.—Suppose you fail to make a report at the end of the year?

A.—They will get the report all right. [Laughter.]

Q.—I understand that; but in some States in the event that the report is not filed——

A.—I do not think there is any penalty here.

Q.—Montana has a law of that character, I understand.

Mr. Crownhart—These laws are pretty reasonable in this State, after you have studied them all out. They have not made any very severe penalties. We have our statistical law which requires you to make reports of all accidents, and there is quite a penalty attached if you do not make reports, but we do not enforce it. By simply writing a letter saying you have not reported this accident, and wonder why you have not done it, the recipient comes across, usually saying it is the fault of the stenographer. [Laughter.] But after having laid the blame on the stenographer he generally makes the reports follow, and everything is lovely. [Laughter.]

Mr. Glass—Have you any statistics showing the ratio of accidents among the employees under the law and those that are not?

Mr. Crownhart—No, sir; we have not. There are some such statistics in foreign countries, but not here.

Q.—You have not gone far enough?

A.—No, sir; we have not got that far. We have the number of accidents happening under the law and the number happening outside, but not their relation. I would like to speak to you gentlemen respecting the assertion that this is a sort of a political proposition. They say we are getting too many commissions, and that they are not earning their salaries. If that is true they are to be abolished. The Commission wants to be of some help to you, gentlemen, if it can be; and wants to earn its salary. We are operating this workman's compensation act with one examiner who goes to the place of trouble. If you have any trouble he goes right to your establishment and takes the matter up there. It costs you nothing, nor does it cost the employee anything. The commission with two stenographers is handling 400 companies under this law; so it is not really very expensive. One of these cases if tried in court would cost the county and State $100 a day while being tried. If 5 per cent. of the cases we have settled were tried in court the cost would have been more to Wisconsin than the entire work of this Commission. In other words, the compensation is only a side issue really of our work. [Great applause.]

Mr. Croscot—I fully agree with the Commissioner that so far as I have been able to ascertain, the work of the Commission has been entirely satisfactory. I may say I believe the expense is far less than that appertaining to the income tax, which may not be quite as satisfactory. [Great applause and laughter.] I, therefore, move the hearty thanks of the Association be extended to Mr. Crownhart for his able presentation of the facts and provisions of law under which the Commission is working. [Seconded.]

The President—Before putting the motion I would like to voice my approval of Mr. Crownhart's recital. I have heard him on three different occasions, in one of which instances, I remember, he was very much limited as to his time. He asked me to-day how much time we would give him; and I said, it is entirely in your hands; and I think that on this occasion he has made the matter much plainer to us than I ever heard it explained before. [Motion put and carried.]

ACKNOWLEDGMENT FROM MR. DOUGLAS.

The Secretary read the following telegram:

MANITOWOC, WIS., May 15, 1912.

Secretary, Wisconsin Gas Association: Your telegram received. Thank you for your sympathy. Am recovering rapidly; but regret I can't be with you. Hope you all have a good time.—D. DOUGLAS.

The message was received with great cheering.

ROLL CALL

disclosed the presence of the following:

Active.

Billings, W. E.	Buck, H. M.	Callender, D. E.
Blonien, E.	Butterworth, W. C.	Corscot, J.
Dell, J.	Kelsey, F. P.	Rahn, B.
Dequine, L. E.	Knight, J. J.	Ruenzel, P. F.
Easterly, H. W.	Kraft, R. P.	Schaper, H. C.
Eisenman, A. A.	Kurtz, A.	Smith, A.
Fulton, G. H.	Lathrop, L. H.	Sommer, O. C.
Gilbertson, M. A.	Luebkeman, C.	Spiering, R.
Glass, S. J.	Lyons, B. F.	Stroebel, D. G.
Gregg, G. F.	Martin, J. F.	Walker, J. H.
Haase, E.	Mason, J. T.	Wiggers, C. H.
Hartel, W. T.	McCorkindale, W. J.	Wilke, A. C.
Harman, H.	Palmer, H. L.	Wilson, H. H.
Herrmann, R.	Patten, J. A.	Wortendyke, I. F.
Humphrey, H. M.	Penniston, C. D.	Young, R.
Jones, W.		

Associate.

Asendorf, C. F.	Guitteau, C.	Schall, H. D.
Brechtel, A. J.	Harbison, C.	Shannon, C. A.
Cressler, G. H.	Harr, D. C.	Smyley, A. L.
Curfman, F. G.	Holderness, J. C.	Unger, J. O.
Curtis, F. E.	Hutchinson, W. P.	Wallace, A. I.
Dunkle, C. C.	Kellum, B. J.	Weadley, W. F.
Goldman, J.	Potter, J. L.	Wickham, L.
Grant, T. E.	Quinn, W. C.	Wysocki, J.
Gregg, W. L.		

The President introduced Mr. T. E. Grant (Kalamazoo, Mich.), who read the following paper on

WATER HEATERS.

In presenting this paper to you on gas water heaters it is not my intention to discuss their mechanical workings, but to place a few ideas before you that may help to increase their sales—ideas that have been and are now being worked out successfully by various gas companies. The live gas man of to-day realizes the possibilities of increasing the sales of water heaters, meaning an increase in his revenue, without the additional cost of mains and services, is the best argument for doing away with coal heating devices, and to bring about the gas man's dream—the all-gas kitchen. Gas water heaters may be divided into three general classes, known respectively as the tank or range boiler heater, the instantaneous or bath heaters, and the automatic heater. They all tend to perform a certain service, but each has certain specific points making it of more value to the consumer and gas company as well. The circulating, or tank heater, will probably always be the largest seller, on account of its initial cost; but the results will not be as effective as heaters of the other two types, through the inconvenience of obtaining a constant and ready supply of hot water. By this I mean, if the heater is connected to the tank in the kitchen or the basement, as is usually the case, the inconvenience of going down to light the heater, and waiting until sufficient water is heated, will many times cause the consumer to defer taking a bath; consequently, the heater will not be used as frequently as if the means of obtaining hot water were more convenient. For kitchen purposes I find that, in a majority of cases, where a tank heater is installed, the water is heated on the kitchen range; statistics gathered from various gas companies show that the average consumption of a heater of this kind is about 6,000 cubic feet per year.

The instantaneous (or bath) heater is almost exclusively a bathroom appliance; that is, hot water can only be obtained in the room in which the heater is located, but the method of obtaining hot water from this appliance is so simple and easy of access that it is used very frequently. In installing a heater of this type it is very essential that vent connections be made from the heater, in order to carry off the products of combustion. Heaters of the instantaneous kind have a very high efficiency, and require but little maintenance. Statistics show that the average consumption with an instantaneous heater is 10,000 cubic feet per year, or two-thirds greater than that of the tank heater.

The automatic heaters are the most desirable of all water heater installations, but the first or initial cost prevents many from purchasing them. These heaters are made in two styles, known as the "Direct" and the "Storage" systems. The latter style will probably never be a popular heater in communities where the price of gas is $1 or more, because of the high cost of operation; the great loss of heat by radiation from a storage system will prevent consumers installing them, and I believe that gas men should discourage their use, unless they have someone who is willing to pay a large bill for the convenience of having hot water at the faucet at all times. The type of automatic heater that heats the water direct at the turn of the faucet is the popular appliance, because of its economy, there being practically no consumption of gas save while the heater is in operation, and the short time required to wait for the hot water to reach the fixture causes no complaint. The fact that hot water can be

drawn at any hot water faucet in the house without inconvenience to the user, makes this type of heater the ideal installation for both consumer and gas company. Automatic heaters are made in various sizes to suit the different requirements, and great care should be exercised when selling a heater of this kind to see that one of sufficient capacity is installed, for if this is not done it will cause dissatisfaction to the consumer. Sell a heater that will give an ample supply of hot water, as it is much better that they have too much than not enough. Also, when installing this heater, see that the gas supply is sufficient, and that it is connected as close as possible to the kitchen and bathroom, so that you have as short a run of pipe as possible. Manufacturers also recommend that self-closing faucets be placed in the kitchen, to prevent servant girls allowing water to run, thereby wasting a large volume of gas. Families having automatic water heaters will use a great deal more hot water, because of the ease and economy by which the device can be operated. The constant and ever-ready supply of hot water at a predetermined temperature (due to the thermostatic arrangement) is delivered at a comparatively small cost and supplies a convincing argument against the gas man's bugaboo, the coal heater. The average consumption of an automatic heater is 30,000 cubic feet per year.

Service, durability and economy enter into the sale of gas water heaters. Sell a heater of high efficiency that will give the greatest service, that will give the least amount of trouble to both yourself and the consumer, that will keep him satisfied and reduce your maintenance cost. Heaters that will give first-class service, and continue to do so, are the most economical to the purchaser. In looking up the relative number of water heaters in use by various gas companies, I find that in the average town there are 10 times as many gas ranges as water heaters. These figures will give you an idea of the amount of work that can be accomplished and the large field that remains to increase your business; but it can only be accomplished by constant and consistent work. In many cases it is a matter of education, similar to the one instituted some years ago by gas companies in order to sell gas ranges—an education that started with a hot plate and which has developed to the cabinet range. But do not make the mistake that many have made in installing cheap and inefficient appliances, because you are defeating your own purpose by doing so; increase your sale of gas, but do so by satisfying your consumer. And the only way to do this is by selling high-grade appliances that will continue to be used. There is an opportunity existing in every city for gas companies to increase the water heater installations, by co-operating with the master plumbers, making friends of them, and letting them in on the water heater business. Cause them to be boosters, instead of "kicking your dawg aroun'," as in the case in a number of towns to my personal knowledge. Several gas men that I know have an agreement with the plumber, and water heaters are sold at a price whereby the plumber can make a reasonable profit. The best plan, I believe, is to carry the heaters in stock and when the plumber has occasion to install one, sell it to him at cost, and where the heaters are sold by the gas company, give the work of connecting the water to the plumber. This plan, as I said before, has been found to produce the best results, because it not only causes the plumber to assume a friendly attitude, but enables the gas company to a great extent to dictate the kind of water heaters that are to be installed; and, instead of a cheap, inefficient heater, that will sooner or later cause complaint and dissatisfaction, you have the assurance that the appliances installed meet with your approval.

Gas companies, when selling water heaters at cost, prevent the plumber from competing, and if he is unable to sell gas heaters at a profit he will discourage their use as much as possible, sell coal heaters instead. In the position he occupies with the public he is able to do this to a great extent, and he also has considerable influence with the architects. If in case he does find it necessary to sell a gas water heater, it will be one of very cheap make that will never give satisfaction. If the consumer complains to the plumber that the heater does not work satisfactorily, the plumber will blame it on the gas. On the other hand, by co-operating with them and having them place heaters on display in their shops, they develop into boosters who will do you a great deal of good; in fact, they are virtually solicitors for you that are not on your payroll. I believe the time is at hand when this plan of co-operation will be in force everywhere, because gas men, seeing the advantages to be gained, the results are always satisfactory.

Discussion.

Mr. Walker—I congratulate Mr. Grant on his excellent paper; but on one point I propose to raise a little row. I believe gas men should discourage their use unless they have someone who is willing to pay a large bill for the convenience of having hot water at the faucet at all times. This condition will exist, as a great many storage systems have been installed in the past, due to the fact that there was no insulation and never had been any insulation connected with the storage tank. New storage systems on the market that are insulated, and to a large extent insulated thoroughly. I believe conditions can be further improved, and a saving of gas largely accomplished, by increasing the insulation on these tanks. The fact that manufacturing establishments of certain classes can have 40 to 60 gallons of hot water in the storage tank, ready at any one time when they are required to draw say 10, 20 or 30 gallons all at once, is a big advantage to the party having it. Now, that 30 or 40 gallons must be drawn within a very few minutes, say from 5 to 10; if he wants to draw it in 5 minutes he would require an automatic water heater of 8 gallon capacity, to do that work. The work is intermittent, but at the time water is required it is required in very large quantity. That can only be accomplished by having a storage tank, or an extreme installation of the automatic or direct system. If the storage tank is perfectly insulated when no water is being drawn there is hardly any radiation loss. Therefore, there is no reason why the expense for that system should be larger than in the case of a direct automatic system.

Mr. Grant—In many cases storage heaters have been installed and discontinued on account of the high cost of operation. Mr. Walker says they want to draw water from a tank containing 30 or 60 gallons of hot water; but with a No. 30 heater we could get 60 gallons in 10 minutes. On the other hand, with the storage system, note how much gas would be wasted by radiation, and that gas would keep burning practically all the time. In order to keep the water hot up to a certain temperature in that system, when tested out it will cost about twice as much to heat water by the storage system as by the direct. You know people do not want to pay those bills. They won't pay them; and is it not better to have a heater put in that the customer will continue to use?

Mr. Walker—That argument is all right, save you get away from the fact mentioned. I stated the insulation must be as perfect as possible. I tested an insulated water tank of 40 gallons capacity on which was left a pilot burning over night, and the water was to be drawn at 130° F. During the night the pilot opened once for 5 minutes, and that water was 130° from 4 o'clock P.M. until 8 A.M. That was all the gas used to keep 45 gallons water up to 130°; and it was absolutely due to the fact that the boiler was well insulated. The gas consumption during the 5 minutes required to keep the temperature up to the required 130° amounted to very little, but the customer could have gone at any minute during the 16 hours and got 40 gallons of water, if he wanted it. Should the insulation be wrong it is an expensive proposition; but if the insulation is right I believe, for a large number of cases, the storage system is the good thing. Also, the first cost of insulation is very much less than for an automatic water heater to give you like results. Take the case of a factory where an employer has 20, 30 or 40 men who drop their work at the blow of the whistle. They all wash their hands at once, and an automatic water heater could hardly supply them; but if the consumer has stored in a tank 40 gallons of water, 20 men can wash their hands at once. With a machine furnishing 6 or 8 gallons a minute, probably half a dozen men could wash their hands at a time, but the rest would have to wait. When the storage system is used you can empty the tank in a few minutes. In that proposition a storage system is certainly of value and a good and inexpensive thing for the manufacturer or the employer.

Mr. Gregg—The trouble is the speakers are talking at cross purposes. Mr. Walker refers to the new type of storage heater, and Mr. Grant refers to the old scheme of putting a gas storage heater in a man's house in the place of a coal heater, with large return pipes which, not being covered, the hot water is wasted in the return. We had cases of that sort in Milwaukee, and we had to take them out.

Mr. Walker—Extensive storage means imperfect insulation.

Mr. Patton (Winona)—Possibly Mr. Gregg refers to a circulating system. One of the principal things with which we have to contend at Winona, in fitting up hotel and restaurant kitchens, is the hot water problem. If we put in an automatic hot water heater of proper size, the hot water faucet in the kitchen being turned on and off frequently, the burners being so large, is quite a volume of excess gas consumed. In one kitchen fitted up with a 20-gallon combination tank and water heater, the water heater being inside, a thermostat is connected with the gas. This kitchen feeds 150 people,

and the heater is not turned off nights, in fact it is left to burn about 24 hours straight. The largest bill they have ever had on that water heater was between $5 and $6 a month. Of course, it is thoroughly insulated, having about 4 inches of asbestos around it. Our experience is, it does not pay to handle cast iron water heaters of the circulating type; but it does pay a person to spend a few more dollars to get a good brass coil.

Mr. Shannon—Our experience in water heaters shows that Mr. Grant is about right in the contention over the high operating cost of storage systems, owing to the fact that, in a great many places (as Mr. Gregg points out) they have a circulating system. The owner wants hot water at the very minute he opens his faucet, and in a great many cases he is not satisfied to wait for it. If a storage system is put in and the circulating system put out, the cost of operating would still be a little higher, even though the tank is insulated with a 2-inch wall of 85 per cent. magnesia covering; but it is a fact that most people, although they want to get water from a storage system, will not do so because of the operating cost and the loss of heat through radiation from the tank. Another thing to consider is that, in a circulation system, regardless of the kind, you very seldom if ever get an efficiency above 60 to 65 per cent., whereas in the automatic types of the present day one gets an efficiency of about 80 per cent. Mr. Walker does not seem to agree with that. We talked about that before. [Laughter.] Nevertheless that claim is made by automatic water heater manufacturers.

Mr. Walker—Admitted. [Laughter.]

Mr. Shannon—I believe for average installation the automatic instantaneous type is much preferable to the storage, on account of the loss of heat from radiation, especially where there is a circulating return system of plumbing.

Mr. Walker—There was some misunderstanding as to my remarks; but I am glad I raised the row. However, the storage system is not applicable to all cases where hot water is required. The automatic or direct system is much preferable in the majority of cases, but in a large number of cases (the storage system properly insulated) that is the proper thing to use, for the simple reason, as I stated, where a large quantity of water is required at stated intervals the cost of installation is much less, and the absolute amount of water is there to be used at the time needed, which is not the case with an automatic heater; that is, with the automatic direct system.

Mr. Shannon—You probably would get a better service in a given period—for instance, in a short space of time—but you pay more for your hot water than you do under other conditions.

Mr. Walker—I fail to see why, if your installation is right.

Mr. Gregg—In Milwaukee, in probably 6 or 7 places, the storage (heavily insulated) heaters have been satisfactory. They have been put chiefly in places where they wash bottles, such as wholesale liquor dealers' establishments or bottling works. There they work satisfactorily, for that work is done at stated intervals. They probably only need 30 gallons of hot water at a time, and then do not use it again for quite an interval. In such cases users are well satisfied over the cost of that style of heater and really prefer it to the direct, instantaneous style.

Mr. Walker—My argument was not in condemnation of the direct system of automatic water heater as against the other; but I did not care to listen to wholesale condemnation of the storage system, since there are many places in which it can be used and applied where the other system cannot be.

Mr. Grant—I agree with Mr. Walker that in some cases a storage system is absolutely necessary; whereas, in a majority of instances, particularly in residences, the direct heater should be used.

Mr. Walker—I was only standing for the under dog. [Laughter.] I could not find fault in any other place with your paper, and did not see any chance of argument otherwise. [Laughter.]

Mr. Grant—I thank you. [Laughter and applause.]

(To be Continued.)

Troubles in the Treatment of Coal in a Gas Works.

[Prepared for the JOURNAL by J. A. S.]

In addition to the preliminary problems involved in the proper construction and layout of a gas works plant, with due regard to convenience and economy in handling the coal, there are a number of minor points which, apparently of comparatively small importance, in reality exercise a profound effect upon the proper working of the plant in practice. As it is very difficult to classify the troubles which arise in the course of practice no attempt will be made to do so in the present article. It is, however, suggested that the recital of a few of the typical troubles which occur in connection with the handling of coal in gas works, up to the point where it is transmitted to the retorts, will be of some value and interest.

The proper storage and handling of coal are admittedly most difficult problems that call for a great amount of attention and experiment. On the one hand, for example, there is the necessity in view of labor troubles and other causes of delay in supply to gas works, to have as large storage as is conveniently possible. On the other hand, it is difficult in many cases to satisfactorily arrange the proper disposal of coal in such way as to enable any portion of the bulk to be gotten at as required, and also to prevent collapse due to excessive weight on the structure or other troubles. In more than one gas works it has been found that spontaneous combustion has occurred in large coal piles, and usually this has been traced to the fact that the coal has been stored in a damp condition. The oxidation of iron pyrites in the coal by the oxygen dissolved in the water causes the temperature of the mass to rise, with the result that, as the heat cannot be carried off quickly, combustion takes place, involving in some instances very great waste of coal and capital. This, then, is one of the urgent problems in the handling of coal for gas works' practice.

Reference was made above to the mechanical problems also involved in the proper disposal of the coal and this in many cases becomes a very serious matter. For example, coal is often, owing to lack of thought on the part of the foreman entrusted with the operations, carelessly piled up against any boundary wall or other similar structure, quite regardless of the fact that the wall has not been built to resist any great lateral thrust such as occurs when a large pile of coal rests on one side of it. The result of this in one English gas works was a complete overturning and collapse of the wall, involving considerable trouble in replacement. In the storage and handling of coal, therefore, so far as possible, ample horizontal space should be given, for piling up coal into large heaps means not only the risk of spontaneous combustion, but also the production of lateral stresses on the supporting structures which may produce collapse. Where it is essential that this piling up shall be done special attention should be given to the cross-tying of coal stores, as otherwise fracture of the wall will almost certainly occur.

In most cases it is found that the coal as delivered to the gas works is not of the right size for use in retorts and coal breakers have, therefore, to be installed. At this part of the installation there is often a considerable amount of trouble owing to the fact that the coal breakers are very often driven by detached steam engines of comparatively small horse power, which are unfortunately often entrusted to the tender mercies of an unskilled attendant. Owing largely to this, accidents to the coal-breaker engine are far too frequent, and very often are of such a nature as to indicate the result of carelessness. For example, in one breaker engine a complete shutdown was caused through the fact that the eccentric strap broke across, owing to the engine racing. This racing would have been prevented had the attendant been at all sharp over his duty. The strap in this case was made of cast iron, and the brittleness thereof undoubtedly caused it to fail rather sooner than if it had been made of, say, mild steel, owing to the sharp nature of the shock thrown upon it when the engine raced. In the repair, the eccentric strap was made of brass; and this, being a stronger material for the purpose, stood up to its work better.

In another instance considerable difficulty was being found to get the breaker engine to stand up to its work, and when an overhaul was made it was discovered that the engine was actually working with the piston-plate of the piston-head fractured and the leakage of steam and loss of power which ensued thereby can be imagined. It is, fortunate that the trouble was discovered at that particular time since prolonged wear-and-tear would undoubtedly have resulted in a very serious breakdown, if not injury to or even loss of life. The whole cause of this trouble, so far as it could be traced, was due to carelessness in the act of starting up the engine, inasmuch as the water had probably not been drained off from the cylinder sufficiently, with the result that water-hammer in the clearances had occurred, breaking the piston head.

In all mechanical plant, and especially that subjected to the rough use and sharp fluctuations of load, such as are experienced in coal breakers, there is almost certain to be from time to-time a good deal of necessity for renewal. In more than one instance, the teeth on the gear driving the breaker has been broken. Sometimes this is due to the heavy nature of the load; sometimes to carelessness in handling; at other times to defective material. It should be remembered by machinery manufacturers for gas works' purposes that very frequently the conditions under which plant has to be operated are unusually severe, and materials, which would stand up to the work in the ordinary way, occasionally fail upon the emergency service which is sometimes required of them. For example, in one instance, the cast iron driving pinion of a coal breaker broke badly, several of the teeth being knocked off. It was found that the casting was rather spongy, but even this would not have caused the accident had it not been for the violently fluctuating nature of the load upon the

pinion. Having regard to this fact, the next pinion placed in this position was made of cast steel, which stood up to the work better.

As a further example of the severe strains which sometimes occur, in connection with this type of plant, an incident may be mentioned that occurred in one gas works. In this case the driving pinion and an intermediate pinion were both fractured, owing to the fact that a pit-prop had been tipped into the coal store from which the breaker was fed, along with the coal. This was obviously of an accidental nature, but one which could very easily have been prevented if the watchfulness of the man who assisted with the coal tipping could have been relied on. Very often, however, it is found that this watchfulness is an insignificant quantity.

The point cannot be too strongly emphasized that a gas works manager, in choosing his men for attention to auxiliary plant, should bear in mind that such plant is usually situated where good supervision is not always possible, and where the man in charge has sometimes to act on his own initiative. For this reason, he should be able to deal with at any rate the more ordinary engineering repairs, or should be able to detect when trouble is arising in sufficiently good time to call the attention of the fitter to the trouble. An instance may be given in conclusion as an illustration of this point. On a small steam engine, the duty of which was to drive a coal elevator in a gas works, the thread of a 2-inch steam valve stripped, with the result that the coal elevator engine raced and this sudden racing broke the elevator chain. As every gas works engineer knows, the repair and replacement of an elevator chain are by no means an easy job, and inasmuch as it is highly prabable that the stripping of the thread could have been guarded against, if proper care had been taken, it will be seen that a huge amount of waste time and expense was thrown upon the gas works, owing to the failure of what under ordinary circumstances would have been regarded as an almost insignificant detail.

The above example by no means exhaust the subject of the troubles which can occur in connection with the coal handling and storage of gas works; but it is thought that they may, although of a somewhat miscellaneous description, touch upon accidental points which, in the more complete and systematic statements of the case, are liable to be overlooked. As a matter of fact, practical experiences are made up of what appear to be the accidental problems occurring in the course of day-by-day experience, and the recital of these may, therefore, be of interest to practical men.

Management & Commercial Methods.

LIGHTING DISPLAY, TOLEDO (O.) RAILWAYS AND LIGHT COMPANY.—The Elks held an open air carnival in Toledo, O., from the 19th to

the 24th, of last August, and an excellent show it surely was. The carnival show was brought off in a fenced area, covering 4 blocks of Toledo's streets, and over 200 booths held exhibitions truly representative of the many business activities of booming Toledo, a city that will ever be remembered by the fraternity as the home and work place of that prince of gas men—the late Charles R. Faben, Jr. That the carnival was attractive and enjoyable is best proved by mentioning the fact that the attendance during the 6 days averaged 25,000 daily. Not the least (in fact, it was about the most) attractive booth was that representative of the ability of the Railways and Light Company to cater to the public. The illustration fairly well displays the booth, and its exemplifications, the design, construction, furnishing and maintenance being the result of the joint labors of Mr. J. W. Marshall, Contract Agent, and of Mr. A. H. Gindele, of the gas division of the Company; indeed, of course, by well trained corps of assistants. In fact, it was common matter of comment, judging by the expressions of the viewers, that the "Gas Booth" was the best manned—and womaned, too—one in the show. The interior display was, of course, divided between ministrations of gas and electric currents, the Humprey inverted arcs, the Reflex lamp, and the American Miniature arcs being thoroughly demonstrated, with surprisingly good results. The crowning glory of the booth, however, was a huge gas sign, bearing the slogan "Use dependable gas." This was a great booster for artificial gas, for many of your Toledo readers know that the artificial sort has had the upper hand in Cleveland for quite a while. It is noteworthy that this photograph is the result of a 15-minute exposure.—G.

THE LATEST GAS IRON CAMPAIGN BY THE PUBLIC SERVICE GAS COMPANY, OF NEW JERSEY.—The Public Service Gas Company, of New Jersey, is, at the writing of this article, carrying on a gas iron campaign in the territory supplied by it; and, up to July 17th, 18,493 irons have been sold. These are net sales, cancellations having been deducted. The campaign was started May 26th.

Briefly, the plan of sale has been to sell all irons, among which are the "I. M. E," Central Flatiron Mfg. Company; "I Wahntu Comfort," Strause Gas Iron Company; and the "Perfect," by Bless & Drake. All for $3.50, payable 50 cents down, when iron is connected, and 75 cents a month for 4 consecutive months.

Where the consumer is using a monthly meter, each monthly payment of 75 cents is added to the gas bill and collected by regular collector. Where consumer is using a prepayment meter, a bill is sent and the monthly payments are collected by the regular collector, not by the prepayment collector.

For $3.50, 6 feet of Crane's Wirebound Tubing, or of Strause Gas Iron Company's tubing, or of Central Flatiron Mfg. Company's tubing, is furnished, and a ¾-inch, ⅝-inch or ½-inch safety hose, or independent cock, made by a New York firm. All irons have been connected gratis where no other material has been used. Where iron pipe is wanted an additional charge is made of 10 cents per foot. So far little iron pipe has been required.

"Allen Safety Clamps" are used to hold the tubing more securely on the hose connection end, the method of connection being to put a hose cock on the manifold of the range, or make a connection from side bracket.

Extra salesmen are employed especially to sell the irons, and who are paid a straight commission of 55 cents on all orders taken by them No commission is paid them for office sales, and no leads are furnished them, excepting such inquiries mailed to the office on advertising matter the salesmen have left and upon which their names are written.

In territories large enough to employ 8 men a supervisor has been selected from the regular representatives who is paid, in addition to his regular salary, a bonus of 5 cents on all irons sold by the men in his charge. The regular representatives are allowed a bonus of 10 points on all irons sold by them. This doubles the points allowed prior to the starting of the campaign, and will be continued during the period campaign is in operation. Deductions are made from all men for all cancellations, although every effort is made to keep the cancellations at the lowest possible minimum.

An order returned as cancelled by the distribution department is handed over to the salesmen who took it, who makes every effort to resell the iron, and before it is finally cancelled the supervisor calls on the party who placed the order.

The irons are connected by the regular fitters, who collect the first 50 cents. It was found a good plan to have the irons delivered by wagons, from which the fitters' work. In some districts, however, irons were delivered by fitters. No irons are sold on trial.

The only advertising done was as noted: no newspaper advertising whatever was carried.

On the May sales (delivered in June) a post card sticker, entitled, "The Comfortable Way to Iron" was attached. This was also sent out on the prepayment collection slips during June. It was printed on No. 1, white woodcut, 28 by 44, No. 140 stock colors, red and black.

On June sales (delivered in July) a post card sticker. entitled, "Table Cloths and Dainty Shirt Waists" was attached to regular sales and prepayment collection slips. This sticker was printed on No. 1, white woodcut, 28 by 44,140 stock, colors green and black.

The post card sticker is considered the best piece of printed advertising that can be used, with a reasonable degree of certainty that the message we wish to convey will be placed before our consumers in direct, attractive way, affording them the means of a simple and easy medium for inquiry or order.

In addition to the two post card stickers, was used a post card, entitled, "Can you afford to iron any other way than with our gas iron when we guarantee it to ——." This card (left by the salesmen when they did not make a sale) was printed on buff etching stock, 18½ by 28½ No. 128, colors black and red.

Oilcloth signs as noted, 4 in all (2 signs reading differently) were placed on each wagon.

"Fifty Cents down secures our Gas Iron."

Every gas iron you obtain from us is fully guaranteed to do your ironing satisfactorily.

Irons anything, from tablecloths to lace shirt waists, at a cost for fuel of only 2 cents for 5 hours' use.

Send for yours to-day.

"Get our Gas Iron To-day."

Do your ironing in comfort this summer.

Save yourself thousands of steps.
No building hot fires. No waiting.
Cheapest and best way to iron. You risk nothing.

"Our Gas Irons Pay for Themselves in Six Months."

Heating irons on coal stoves costs $5.20 in 6 months; our gas iron fuel costs $1.04.

You can't afford to be without our gas iron.
Order one to-day and save this money.
Fifty cents down secures one. We guarantee it.

"Get our Gas Iron and Make Next Ironing Day Easy."

You can save time, labor and money every ironing day.
You owe it to yourself to iron in the easiest, quickest and cheapest way.
Fifty cents down secures an iron guaranteed to work satisfactorily.

To attract the attention of persons passing and transacting business in our office 14 display cards were printed, worded differently some of which are noted:

1. "Step inside and see one of our gas irons demonstrated."
2. "Do you wish to save yourself 15,600 wearying steps a year."
"A woman ironing in the old way takes that number of steps unnecessarily."
"Get one of our gas irons and stop this waste of energy on ironing days. Order one while you are here."
3. "No matter what your experience has been with gas irons, our latest model gas irons will give you satisfaction."
"Your money back if they don't."
"Guaranteed to be absolutely odorless."
4. You owe it to yourself to iron in the easiest, quickest, cleanest and cheapest way."
"Our gas iron affords the best way to iron."
5. "Thousands of women bought our gas irons last year."
"Ask your neighbor who has one what she thinks of it."
6. "If our gas iron is as good as we claim it is, don't you think you want one?"
"Order one in time for next ironing day."

These display cards were printed in 2 colors, black and green, and the cut of a girl ironing in all-gas-kitchen, and framed in an attractive border, was used to illustrate the text. The cut was printed in black; the border and text in green.

Since some of these cards were used in street cars in one of our districts they conformed to the regular size. In addition to the advertising matter prepared by us, we distributed the regular advertising matter furnished by the iron manufacturers. Some of our larger districts found that using demonstrators, to follow up the irons connected, was very desirable. During discount periods demonstrators very cleverly and effectively demonstrated the irons in our display rooms. Special carrying cases, made of fiber and lined with asbestos, furnisiled by "The Bal Company," are used by the salesmen to carry the irons.

A special contract sales' order is used to take all orders for irons sold during the campaign. This was printed in quadruplicate, one each for office, shop and storeroom record, and one for purchaser. During this campaign the troubles apparently incident to campaigns of this nature were encountered. One of the chief difficulties was to get men to sell the irons. Many likely locking fellows, who could have no doubt done well, rejected the proposition when they found it was house-to-house work; others fell by the wayside after a trial of a day or two. Those of the men and women (both sexes were employed), who were willing to work and had sales' ability, averaged from $15 to $20 a week, while some made upwards of $25 a week. Some troubles were experienced, due to some of the irons not heating to suit individual requirements or flashing back because of obstructions getting into the orifice from the tubing, etc., or on account of not being equipped with just the right orifice to meet the local conditions found in some of the old houses. These complaints were given prompt attention, and, except in very rare instances, the trouble is remedied to the entire satisfaction of the customer.

The irons returned to this date for any reason probably do not exceed 60.

From the very start of the campaign we have had to meet the strongest kind of competition. Dealers have been selling irons for $1.50, some even securing a supply of the same make of irons the Company was selling (in some cases not the latest model), from jobbers, then cut under the price on the few they secured, making them "leaders" to draw other business. While they sold the iron and tubing cheaper they did not include the service we did, such as a safety, hose cock, making connection, regulating and allowing monthly payments; and our men, when given an opportunity, were able to sell against these lower prices.

Just a word as to collections. An article is never sold until the service it renders, satisfactorily meets the needs of the purchaser and the money is paid as agreed. Thus far the monthly payments due have been promptly and cheerfully paid. This being the case it is reasonable to suppose that the Company will sell 25,000 irons this campaign. Such is the number it set out to sell, but in its efforts to sell this number it is being borne in mind that the iron is of no value to the purchaser, unless it gives adequate and superior service to that used by the customer prior to the purchase of the new article.

Items of Interest
FROM VARIOUS LOCALITIES.

THE Gas Machinery Company, of Cleveland, O., has been awarded contracts for silica retorts and settings to be installed in the respective gas works at Lewiston, Idaho; Laurium, Mich.; DeKalb and Jacksonville, Ills. The retorts at Laurium will be of the inclined type, while the others are to be of the horizontal plan.

MR. R. F. VICTOR, writing from Buffalo, N. Y., under date of August 29th, last, says: "Just to have a record of the fact (for I have seen no mention thereof in the JOURNAL) let me inform you of the death of Mr. William Edmund Riselay (father of Mr. William S. Riseley, Treasurer-Secretary, Buffalo (N. Y.) Gas Company), who had, for many years, been actively connected with the fortunes of the Buffalo Gas Company. He was in his 80th year.

ON the 18th inst. the Public Service Commission, Second New York District, setting in Albany, will listen to formal complaint against the Westchester Lighting Company as to excessive rates charged for gas in the village of Tarrytown, North Tarrytown and White Plains.

THE Pacific Gas and Electric Company, respecting its gas supply to the residents of its Berkeley (Cal.) branch, paid into the city treasury of that place, the sum of $1,170.50, which sum represented 2 per cent. on its gross earnings for the past year.

MR. R. E. BURGER, formerly Manager of the Fremont (Neb.) Gas and Electric Light Company, has been transferred from Massillon, O., to Elyria, same State.

MR. R. P. BLAINE, formerly of Ottawa, Kas., has been appoiuted Manager of the Electric and Gas Supply Company, Osawatomie, Kas., with headquarters in the Maynard Block.

THIS is from a recent issue of the Cambridge (Mass.) *Tribune*: Profit-sharing on a large scale is to be carried out by the Cambridge Gas Light Company, whereby the employees of the concern will share part of the profits of the Company, the distribution being quite like that exercised in respect of the shareholders' dividend. The plan is explained in the following letter recently addressed by Treasurer Barnes to the employees:

"The Directors of your Company, wishing to show their appreciation of your loyal and faithful service during the fiscal year ending June 30, 1912, have voted to distribute among those employees deemed eligible a bonus equal to 5 per cent. of the wages received by them during that period. A special committee, appointed to carry out the vote of the Board, has decided that to be eligible to share in this distribution, the employee must (1) Be in the employ of the Company at the time the distribution is made; (2) have been in the employ of the Company continuously since January 1, 1912; and (3) have rendered such service as, in the opinion of the Committee, warrants such participation. The preparation of the list of the employees and the computation of the amount due each one, may perhaps require a month's time, but the Committee will push the plan along as rapidly as possible. This form of profit-sharing is wholly an experiment, and the Directors make no promises as to the future, preferring to wait and see the results of the experiment; but they hope and believe the plan will tend to give the employees a greater interest in their work, will help them to realize that they are part and parcel of the Company, and in that way result in greater economy and profit to the Company, better service to the public, and a financial benefit to the employees themselves."

SUPT. E. T. BENTZINGER, of the Peoples Gas and Electric Company, Burlington, Ia., is busily engaged erecting the 2-story brick structure to house the new water gas set. The old set will be removed from the power house and reset in the new structure, to stand as an auxiliary. West of the new house will be constructed a building to have two modern type purifying boxes. The itinerary also includes new piping connections and storage sheds. Mr. Bentzinger hopes to have all the changes accomplished by the 1st prox.

We are informed that the Chicago Suburban Gas and Electric Company has been incorporated, for the purpose of taking over all the properties of the North Shore (Ills.) Gas Company. The headquarters of the Company are to be retained at Waukegan, and the districts supplied are: North Chicago, Lake Bluff, Lake Forest, Fort Sheridan, Highwood, Highland Park, Libertyville, Ravinia, Winetka and Glencoe. These places have a population of not less than 50,000, and it is said the output is 750,000,000 cubic feet per annum, an amazing result surely to be gained by a corporation, if we mistake not, formed in 1891, to furnish gas to Waukegan and North Chicago. The net selling rate is $1 per 1,000, and the gross earnings of the Company for the year 1911 were returned at $248,802; the net being $118,316.

Mr. W. Y. Cartwright, recently elected Vice-President of the Columbia Gas and Electric Company, has given up his residence in Clarksburg, W. Va., to make his permanent home in Cincinnati. He will have active supervision of the natural gas division of the Company's business.

The Illinois Northern Utilities Company has commenced the work of rebuilding the plant at Morrison, Ills., with Mr. E. W. Galloway in charge of the work. The task includes new housing for a water gas set, the house to be of brick, with trussed roof of steel and steel frame. The other equipment comprises a station meter, turbine blower, pumps, purifiers and all the necessary connections. The new plant will be up to an output of 165,000 cubic feet.

"In the industrial tent at the great apple fair, held in Sebastopal, Santa Rosa, Cal., the last week in August, a most imposing show of gas appliances was made by the local branch of the Pacific Gas and Electric Company, under the direction of Manager Maitland G. Hall. That the 'show' appealed to the elect as well as to the casual inspector would seem proven from the fact that the exhibit was awarded the first prize by the judges of award. That is surely going fast, especially when I tell you that the second prize was awarded to the prominent musical instrument house of Zoberbier & Sons, of Santa Rosa.—B. V. T."

Our correspondent's mention of this puts us in mind of the fact that some weeks ago the Santa Rosa folks made contracts for main extensions which foot up the adding of 8 miles to their present system, Another clever determination by the Santa Rosa management was the constructing of an oil pipe line from its plant direct to the sidings of the Northwestern Pacific Railroad for the automatic delivery of oil.

Mr. J. A. Sloan, of the Napoleon (O.) Gas Company, has also secured a franchise to supply gas to the outlying district of Wauseon, "for fuel, industrial and illuminating purposes." The name of the Company has been amended to read the Napoleon and Wauseon Gas Company, but the plant will (as originally contemplated) be built in Napoleon.

At a special meeting of the shareholders in the Hamilon (O.) Otto Coke and Gas Company the following new managers were chosen: Directors, J. C. Thoms, F. L. Perrin, H. L. Brenneman, F. L. Garrison, E. M. Peters, W. E. Hutton and Robert Ramsay—a pretty strong collection; President, E. M. Peters; Vice-President, E. M. Thoms; Secretary and Treasurer, E. C. Seemers. From this alignment it is fair to assume that the Miami Iron and Steel Company controls the Company.

Mr. A. V. Stern sends the following: "This news, although not particularly recent, may have some interest: Mr. F. B. Lawton succeeds Mr. Louis Marshall as Manager of the gas department of the Newport News and Old Point (Va.) Railway and Electric Company, with offices as before in Newport News. Mr. C. P. Porter, formerly Engineer of the Hampton plant, will have charge of the plants in Newport News and Old Point. Mr. Marshall's resignation was prompted by his acceptance of an important position in a large house in Richmond, Va. Mr. Jesse L. Topping succeeds Mr. William H. Richardson as Cashier, and the offices of the Company will be located in the premises heretofore occupied by M. F. Diggs & Co.

Mr. Cyrus H. Eaton and associates have purchased the properties of the York (Neb.) Gas and Electric Company. The Company also furnishes steam heat to the residents.

The El Paso (Tex.) Gas and Electric Company is planning to construct on a plot in the Santa Fe reservation a gasholder up to retaining 500,000 cubic feet. The Company has also constructed a handsome brick building, at the junction of Oregon and Franklin streets, to be used for office purposes, showrooms, storage quarters, and the like.

"J. T. J.," writing from San Francisco, Cal., under date of August 29th, incloses this: "Earnings of the Pacific Gas and Electric Company, the shares of which are frequently dealt in on the Eastern exchanges, are expected to show an increase of $1,000,000 in gross during the current twelvemonth over the gross rendered in 1911. The gross for the year 1911 amounted to $14,604,000, while for the year 1910 they were $14,300,000. The estimate of this large increase in earnings is based on the gain in consumption and in the number of consumers for the 6 months ended June 30, 1912. A statement just issued by an officer of the Company shows that on June 30, 1912, the Pacific Gas and Electric had on its books, 299,350 consumers, a gain in the 6 months of 12,244 consumers. It is stated that the probable gain for the entire year will be 25,000, making at the close of 1912 an aggregate of 312,100 consumers. In 1911 the average gross revenue a consumer was $40, and this average has been steadily coming up for several years, in spite of the fact that rates have been decreased in all of the larger centers of consumption. While, of course, the gain is scattered over the entire year, so that the average for the new consumers will be considerably less than $40 in the present year, yet even at an average of $20 a new consumer for those added this year, the result would be a gain of over $500,000 in gross revenue, with the increase from old business to be added. Work on the new hydro-electric plants of the Company on Bear river is progressing rapidly and they will be ready for operation the coming year. When these plants are in operation the Company will be in position to furnish all its own power instead of buying a large amount, as now. Over 1,000 men at present are employed on these projects, which will develop 120-000-horse power in addition to that now available at plants of the Company.

Gas was turned on from the new municipal gas plant in Albany, Ga., the afternoon of the 26th ult., and everything went off satisfactorily. Messrs. Sutherland and Fritchman are to be congratulated on the outcome; for some of the work was sadly hampered through inability to hire labor that was worth anywhere near the money.

The annual outing of the Norwich Club, the workmen's organization of the Providence (R. I.) Gas Company, was held the last week in August. The scene of the festivities was in and on a noted suburban picnic resort, and three electric cars were required to haul the merrymakers to their destination. The usual features of an outing of this nature were well exemplified, including a ball game (distributing division and office section) which resulted in a victory for the "distribs." Foot races, of one kind or another, tugs-of-war, etc., well-filled in the time. The "final number" was a clambake, that was a clambake; real Squantum style. A feature of the outing was a speech by President Ellis, who was a special guest, and who enjoyed the affair seemingly as heartily as any other present. Superintendent of Distribution, Mr. Geo. E. Allen, was Chairman of the Committee that had the outing in charge, and his efficient aides were Messrs. W. Brown, Jas. Devlin, W. B. Smith, B. Cole, A. F. Short (Short won the wheelbarrow race), R. Moody and Donald Hunter.

P. B. Dunne, writing from Rochester, N. Y., under date of August 30th, incloses this: "Orchardists on the East side of the river are about taking up the matter of warming their orchards with gas during periods when the safety of the crop is endangered by frost. The gas mains of the Rochester Railway and Light Company to Summerville have been completed, and the terminals were connected-up Saturday (Aug. 24), and gas was used in the White City for the first time that evening. If the orchards are heated the gas will be taken from this main. "The only thing that stands in the way of the use of gas is the cost," said an Irondequoit orchardist, when spoken to on the subject. Continuing, he said: "My brother, who has an orchard in California, writes me that they are using natural gas in heating orchards in the foothills near his place, and that several times last fall and spring the trees were successfully treated by the heat from the burning gas."

Replying to the charge made by the California Railroad Commission that the rate ($1.50 per 1,000 cubic feet) for gas charged by the Palo Alto Gas Company was excessive, the Company offered these concessions: A flat rate of $1.45 per 1,000, and a minimum monthly bill of 50 cents, or a sliding scale of rates ranging from $1.45 per 1,000 to ordinary consumers down to $1.25 per 1,000 cubic feet for consumers using 15,000 cubic feet or more monthly.

The Market for Gas Securities.

If the activity displayed on the Stock Exchange is any criterion, September is quite as popular a vacation month as either July or August. Buyers, sellers and investors have paid little attention to the market, and the public utility shares are quoted at about the same figures as those of a week ago. While the speeches of the candidates occupy the front pages, their pre-election pledges have neither depressed or raised the general market values.

Consolidated, of New York city, is held at a point higher than a week ago—146½ being asked. Peoples, of Chicago, is also higher, at 117½ asked. Brooklyn Union and Laclede remain steady.

Gas Stocks.

Quotations by George W. Close, Broker and Dealer in Gas Stocks.

115 BROADWAY, NEW YORK CITY.

SEPTEMBER 9.

☞ All communications will receive particular attention.

☞ The following quotations are based on the par value of $100 per share:

N. Y. City Companies.	*Capital.*	*Par.*	*Bid.*	*Asked*
Consolidated Gas Co.	$78,177,000	100	146	146¼
Central Union Gas Co.—				
1st 5's, due 1972, J. & J.	8,000,000	1,000	103	106
Equitable Gas Light Co.—				
Con. 5's, due 1932, M. & S.	1,000,000	1,000	105	106
Mutual Gas Co.	8,500,000	100	182	187
New Amsterdam Gas Co.—				
1st Con. 5's, due 1948, J. & J.	11,000,000	1,000	101	102½
New York & Richmond Gas Co. (Staten Island)	1,500,000	100	35	50
1st Mtg. Gold Bds. 5 p. ct.	1,500,000	—	98½	100½
New York and East River—				
1st 5's, due 1944, J. & J.	3,500,000	1,000	103	105
Con. 5's, due 1945, J. & J.	1,500,000	—	95	100
Northern Union—				
1st 5's, due 1927, J. & J.	1,250,000	1,000	99½	101
Standard	5,000,000	100	60	70
Preferred	5,000,000	100	90	100
1st Mtg. 5's, due 1930, M. & N.	1,500,000	1,000	103	105
The Brooklyn Union	15,000,000	1,000	147	148
1st Con. 5's, due 1948, M. & N.	15,000,000	—	106¾	107
Yonkers	299,650	500	130	—
Out-of-Town Companies.				
Bay State	50,000,000	50	7-16	⅛
" Income Bonds	2,000,000	1,000	—	75
Binghampton Gas Works	450,000	100	—	—
" 1st Mtg. 5's	500,000	1,000	97	100
Boston United Gas Co.—				
1st Series S. F. Trust	7,000,000	1,000	82	85
2d " " "	3,000,000	1,000	47½	50
Buffalo City Gas Co.	5,500,000	100	5	8
Bonds, 5's	5,250,000	1,000	59	60
Capital, Sacramento	500,000	50	—	85
Bonds (6's)	150,000	1,000	—	—
Chicago Gas Co. Guaranteed Gold Bonds	7,660,000	1,000	104	106¼
Cincinnati Gas and Electric Co.	22,500,000	100	87	90
Columbus (O.) Gas Co., 1st Mortgage Bonds	1,500,000	1,000	96	98
Columbus (O.) Gas Lt. & Heating Co.	1,682,750	100	90½	91
Preferred	3,026,500	100	75½	80
Consumers, Toronto	2,000,000	50	200	204
Consolidated, Baltimore	13,460,084	—		—
Mortgages, 5's	3,400,000	—		—
General Mortgage 4½	10,661,000	—		—
Con. Gas Co., Baltimore City, 4½	2,751,000	—		—
Consolidated Gas Co. of N. J.	1,000,000	100	15	—
Con. Mtg. 5's	976,000	1,000	94	96
Bonds	75,000	—	—	100
Detroit City Gas Co.	6,580,000	—	—	50
Detroit Gas Co., 5's	881,000	1,000	75	80
" Prior Lien 5's	5,619,000	1,000	97	100¼
Equitable Gas & Fuel Co., Chicago, Bonds	2,000,000	1,000	—	101
Essex and Hudson Gas Co.	6,500,000	—	133	136
Fort Wayne	2,000,000	—	—	—
" Bonds	2,000,000	—	55	—
Grand Rapids Gas Light Co., 1st Mtg. 5's	1,350,000	1,000	100	101
Hartford	750,000	25	190	200
Hudson County Gas Co., of New Jersey	10,500,000	—	130	138
" Bonds, 5's	10,500,000	—	104	106
Indianapolis	2,000,000	—	38	45
" Bonds, 5's	2,650,000	—	104¼	105
Jackson Gas Co.	250,000	50	82	—
" 1st Mtg. 5's	290,000	1,000	91	95
Kansas City Gas Light Co., of Missouri	5,000,000	100	—	86
Bonds, 1st 5's	3,822,000	1,000	98½	99
Laclede Gas Co., St. Louis.	10,000,000	100	105½	105¾
Preferred	2,500,006	100	90	100
Bonds	10,000,000	1,000	102¾	103
Lafayette Gas Co., Ind.	1,000,000	100	—	60
Bonds	1,000,000	1,000	60	65
Louisville	2,570,000	50	120	120
Madison Gas and Electric Co.				
" 1st Mtg. 6's	400,000	1,000	106	
Massachusetts Gas Companies, of Boston	25,000,000	100	89¼	89½
Preferred	25,000,000	100	95¾	96
Montreal Gas Co., Canada	2,000,000	100	233	236
Nashville Gas Light Co.	1,000,000	100	110	—
Newark, N. J., Con. Gas Co.	6,000,000	—	97	98
Bonds, 6's	5,000,000	—	127	128
New Haven Gas Co.	5,000,000	25	182	190
Peoples Gas Lt. & Coke Co., Chicago	25,000,000	100	117	117¼
1st Mortgage	20,100,000	1,000	102	102½
2d "	2,500,000	1,000	104	—
Rochester Gas & Electric Co.	2,150,000	50	88	—
Preferred	2,150,000	50	118	—
Consolidated 5's	2,000,000	—	104¾	105½
Pacific Gas and Electric Co.	15,500,000	—	64	65
St. Joseph Gas Co.—				
1st Mtg. 5's	1,000,000	1,000	94	98
St. Paul Gas Light Co.	2,500,000	100	—	—
1st Mortgages, 6's	650,000	1,000	104	105
Extension, 6's	600,000	1,000	112¾	115
General Mortgage, 5's	3,447,000	1,000	94	96
Syracuse Gas Co., N. Y.	1,975,000	100	50	55
Bonds	2,047,000	1,000	101	103
Washington (D. C.) Gas Co.	1,600,000	200	420	425
1st Mortgage, 6's	600,000	—	—	—
Western Gas Co., Milwaukee	4,000,000	—	—	—
Wilmington (Del.) Gas Co.	600,000	50	—	—

MEETING TIMES OF THE VARIOUS GAS ASSOCIATIONS.

American Gas Institute.—Annual meeting, October 16 to 18, 1912. Marlborough-Blenheim Hotel, Atlantic City, N. J. Officers: President, Ira C. Copley, Aurora, Ills. Secretary, Geo. G. Ramsdell, 29 West 39th st., N. Y. City.

Canadian Gas Association.—Annual meeting and Gas Show, Toronto, Aug. 26th to Sept. 7, 1912. Officers: President, Arthur Hewitt, Toronto, Ont.; Secretary and Treasurer, John Keillor, Hamilton, Ont.

Empire State Gas and Electric Association.—Annual meeting, New York City, Oct. 9, 1912. Officers: President, R. M. Searle, Rochester, N. Y.; Secretary, C. H. B. Chapin, 29 W. 39th street. New York City.

Gas Meters.—Monthly meetings. Chairman, Will W. Barnes; Commissioners, W. H. Pettes, I. W. Peffly; Secretary, H. Thurston Owens, 42 Pine street, New York City.

Gulld of Gas Managers of New England.—Annual meeting, March, 1913. Young's Hotel, Boston; monthly meeting, second Saturday. Officers: President, Walter G. Africa, Manchester, N. H.; Secretary, H. K. Morrison, Brockton, Mass.

Illinois Gas Association.—Annual meeting, March 19th and 20th, 1913. Chicago, Ills. Officers: President, H. O. Channon, Quincy, Ills.; Secretary-Treasurer, Horace H. Clark, 115 No. Oak Park avenue, Oak Park, Ills.

Illuminating Engineering Society.—Annual meeting, Niagara Falls, Canada, Sept. 16-19, 1912. Meetings of Sections, monthly. Pres't, V. R. Lansingh, New York City; Secretary, Preston S. Millar, 29 W. 39th street, N. Y. City. Sections: New York, Secretary, C. L. Law, 124 West 42d street. New England, Secretary, H. C. Jones, 10 High street, Boston, Mass. Philadelphia, Secretary, L. B. Eichengreen, Broad and Arch streets. Chicago, Secretary, J. B. Jackson, 28 North Market street. Pittsburgh, Secretary, J. C. Mundo, Oliver Building.

Indiana Gas Association.—Annual meeting, March, 1913, Indianapolis. Officers: President, Howard L. Olds, Indianapolis; Vice-President, Wm. Wallace, Lafayette; Secretary-Treasurer, Philmer Eves, Indianapolis.

Iowa District Gas Association.—Annual meeting, Burlington, Ia., May 22, 23, 24, 1913; Officers: President, C. W. Fair, Atlantic, Ia.; Secretary, G. I. Vincent, Des Moines, Ia.

Kansas Gas, Water and Electric Light Association.—Annual meeting, October 17-19. Manhattan, Kas. Officers: President, B. F. Eyer, Manhattan, Kas.; Secretary and Treasurer, J. D. Nicholson, Newton, Kas.

Michigan Gas Association.—Annual meeting, September 4-6, 1912; Toronto, Canada. Officers: President, F. W. Blowers, Kalamazoo, Mich; Secretary-Treasurer, Glenn R. Chamberlain, Grand Rapids, Mich.

Missouri Electric Light, Gas, Water Works and Street Railway Association.—Annual meeting, April, 1913; Joplin, Mo. Officers: President, P. A. Bertrand, Joplin, Mo.; Secretary and Treasurer, P. W. Markham, Brookfield, Mo.

National Commercial Gas Association.—Annual meeting and Gas Show, Dec. 2-5, 1912. Atlanta, Ga. Officers: President, C. L. Holman, St. Louis, Mo.; Secretary, Louis Stotz, 29 West 39th street, New York City.

Natural Gas Association.—Annual meeting, Cleveland, O., May, 1913; Officers: President, M. B. Daly, Cleveland, O; Secretary, T. C. Jones, Delaware, O.

New England Gas Association.—Annual meeting, February,———1913 Boston. Officers: President, D. D. Barnum, Worcester, Mass.; Secretary-Treasurer, N. W. Gifford, East Boston, Mass.

New Jersey State Gas Association.—Fall Meeting, Sept. 21, Atlantic City, N. J.—President, William H. Pettes, Newark, N. J.; Secretary-Treasurer, Arthur H. Osborn Belmar, N. J.

Ohio Gas Association.—Annual meeting, February ———, 1913, Columbus, O.; President, John M. Garard, Columbus, O.; Secretary, L. B. Denning, Columbus, O.

Oklahoma Gas, Electric and Railway Association.—Annual meeting, May, 1913. President, Noel R. Gascho, Alva, Okla.; Secretary, H. V. Bozell, Norman, Okla.

Pacific Coast Gas Association.—Annual meeting, San Diego, Cal., September 17, 18, 19, 1912. Officers: President, W. Baurhyte, Los Angeles, Cal.; Vice-President, Henry E. Adams, Stockton, Cal.; Secretary-Treasurer, John A. Britton, 445 Sutter street, San Francisco, Cal.

Pennsylvania Gas Association.—Annual meeting, York, Pa., April, 1913; Officers, President, H. H. Ganser, Norristown, Pa.; Secretary-Treasurer, W. O. Lamson, Jr., West Chester, Pa.

Society of Gas Lighting.—Annual meeting Dec., 13, 1912; monthly meetings, second Thursday. Place, New York City. Officers: President, Fred. S. Benson; Secretary, George G. Ramsdell, 29 West 39th street, New York city

Southern Gas Association.—Annual meeting,———— 1913,———— Officers: President, C. E. White, Montgomery, Ala.; Secretary-Treasurer, E. D. Brewer, Atlanta, Ga.

Southwestern Electrical and Gas Association.—Annual meeting. April————1913, Galveston, Tex. Officers: President, F. M. Lege, Jr., Galveston, Tex.; Secretary, H. S. Cooper, 405 Slaughter Bldg., Dallas, Tex.

Wisconsin Gas Association.—Annual meeting, May ———— 1913, Milwaukee, Wis. Officers: President, I. F. Wortendyke, Janesville, Wis.; Secretary-Treasurer, Henry Harmon, Milwaukee, Wis.